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CTM – FESTIVAL FOR ADVENTUROUS MUSIC & ART 16TH EDITION X BERLIN 2015

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UN TUNE

INTRODUCTION BY JAN ROHLF

Each year, CTM Festival addresses a different theme. The intention of such framing is not to narrow the scope of its programme and concentrate on only one perspective or on the exhaustive treatment of a single discourse; rather, to serve as a lens through which to consider each respective edition. Previous festival editions might also benefit from review through the lens of this year's theme »Un Tune« and, inversely, the themes of earlier editions might raise questions about this year's programme. Either way, the most we can ever hope to do is encourage further research and independent exploration.

In light of its »Un Tune« theme, CTM 2015 investigates how the immediate effects of frequencies, sound, and music confront and disturb the human body, and explores the extent to which pre-conscious, psycho-physiological affects influence the perception and interpretation of sound and music.

A number of works presented at this year's festival and in this magazine are concerned with the peculiarities of physiology and human cognitive systems, more specifically with how sound and frequency phenomena may trigger certain cognitive responses. Artistic experimentation with the affective and somatic potential of sounds and frequencies opens up possibilities of tuning and de-tuning physical and mental states, atmospheres, spaces, and situations.

It's vital to make a distinction here between the two horizons towards which a society or culture may choose to direct itself when dealing with affective phenomena. This distinction correlates with the distance between the »somatic body« or »soma« – the place of direct phenomenological experience – and the »body« that is the objectified instance of social conditioning. The latter – a tuned, at times even concordant collective entity – belongs to the horizon of disciplinary action and is thus subject to multiple forms of cybernetic, economic, political, or military exploitation. These include ways of using sound either palliatively, in medical, wellness, and self-optimisation thera-

pies, or for purposes such as Muzak, military parades, sonic weaponry, and recently, apps for binaural beats.

By contrast, the somatic body correlates with the horizon of emancipation and liberation through the undirected experience of self that ensues from experimentation with affective potentials. This horizon includes liminal experiences of all kinds, mankind's essential interest in self-observation, the millennia-old practice of manipulating consciousness for which Huxley coined the term psychedelia, dedication to the unknown, and all types of decentralising, transgressive experiences that conjure loss of control, trances, and ecstasy.

In his text »Listening to Wetware Circuitry,« Shintaro Miyazaki writes: »A tuned circuit is usually receptive only to a specific kind of signal, mostly a periodic, regularly changing oscillation at a specific rate, determined by the circuit's elements.« The transmitter and receiver must be attuned to one another. The receiver can resound optimally only within a limited, well-defined bandwidth. »To tune« accordingly always implies the optimisation of a system comprised of several components, i.e. the attainment of its maximum efficiency free of interference, by placing the individual components in predefined harmonic relation to one another. In this scenario, complete consonance or unanimity represents fine-tuning at its most extreme.

To »untune,« on the other hand, means in the first instance to extend the reception's bandwidth and thus receive »more« – even if the latter may reach us (as it often does) in a noisy, unintelligible, obscure form, plagued by interference. The vector of such »untuning« finally propels us into a cathartic, dysfunctional cacophony of immersive noise that might contain the sum of all conceivable frequency modulations. To »untune« therefore also means to open up reception to all that is dissonant, alien, foreign, and unknown. To abandon any well-oiled order is always also to lose purposeful communication. What's more, it disrupts aesthetic and societal routines that necessitate at least partial or temporary disempowerment of one's own subjective position. »Un Tune« therefore also serves as an overarching metaphor, one that highlights the potential that might be unlocked by destabilizing our habitual and consensual states.

We'd doubtless be taking the easy way out were we to assign the dual concepts of »tuned« and »untuned« to these distinct horizons and leave it at that. However, we are talking here about the endpoints of two vectors; different positive and negative variations might, however, be found in the bandwidth between them.

The authors of this magazine and the contributing artists at this year's festival address both horizons in different ways. On the one hand, for example, they take a critical look at the application of affective techniques for disciplinary or military purposes, and at the resulting dystopian sensation of »being tuned.« On the other hand, they bring reductionist aspirations to operational efficiency and the exclusionary mechanisms of rigid convention face to face with the disruptive forces of multiple forms of untuning and the rampant diversity of idiosyncratic experience they conjure.

The process of untuning holds the potential to crack open supposed certitudes, enabling a multiplicity of perspectives to unfold from the fissures of its crumbling brickstones. What's between subject and object, between self and other, between mind and body, knowing and experiencing, individual and collective agency? What is sound? What does listening mean? How do we construct knowledge and historiographies? This multiplicity is yet again mirrored in the diversity of individual responses to affective stimuli. Just as our bodies are structurally similar

and yet differ widely in their actual constitution, people experience frequencies, sounds, noises, music, and the interaction of these phenomena with other sensory input in similar and yet very different ways. It is precisely this indeterminable distance between idiosyncratic experiences that cannot be overcome by cybernetic means. It is not in what we share, but in what we cannot fully share that the value of such experience lies. At best, acknowledging this can bring us closer to understanding and respecting the otherness of others, and help us maintain a certain distance with respect to homogenisation and uniformity.

Such an untuning eventually opens up space for speculation and imagination, (or so we may hope), space for projections of new futures, and for conceptions of alternative policies. Art and music are perfect springboards for such adventurous undertakings because their unending empathy for the recipient provides a framework in which s/he can at last tentatively begin opening up to such experiments in untuning.

Yet the foundations on which the artists, musicians and theorists' contributions both to CTM 2015 and our other projects throughout the year rest, owe much to the work of the many partners and friends who support the festival. For this, my colleagues Oliver Baurhenn, Remco Schuurbiens, and I would like to thank, first and foremost, the Hauptstadtkulturfonds, the European Union Programme Culture, Creative Europe, the Federal Agency for Civic Education, the Federal Commissioner for Culture and the Media, the Initiative Musik, the Musicboard Berlin, the many embassies, consulates, and cultural institutions with whom we collaborate, as well as our media partners and supporters in the private sector. Our heartfelt thanks also to the authors of this publication for their inspiring reflections on issues drawn from diverse disciplines and walks of life. And, finally, to our guests, to all the participants and artists, to our dedicated team, and to the numerous volunteers and fans of CTM, without whom the festival could never be what it is now.

Jan Rohlf is Co-Founder of the CTM Festival.



UN-SOUND: SOUND, AFFECT & ALIEN AGENCY

BY CHRIS SALTER

»Unlike other artistic materials such as paint, clay, or even the human body, sound itself is, in fact, not really a medium since the word itself, etymologically speaking, describes not a thing but a sensation – a psychological condition.« What does it mean to work with sound? Digging into artistic, technological, and philosophical sources, artist and researcher Chris Salter argues that rather than being viewed as a medium, the non-hierarchical, purposeless, continuously-transformed force could be viewed instead as the material agency of life, not located in objects or things but rather situated in practice, in the flow of activity and of the world itself.

It exists on its own and »is occupied,« wrote John Cage, »with the performance of its own characteristics.«⁽¹⁾ No longer a series of discrete, causal steps, it can be classified as a »transmission in all directions from the field's center.« Physical yet, invisible; immaterial but capable of shattering substances and rattling structures.

We are faced here with having to describe the purity of something beyond language, directly experienced in and through bodies, vessels, containers, housings, apparatuses, and substances. An intensity that exists over time. A material that produces a new form rather than representing something existing. An *energy* without an established sequence of hierarchy, passing through an endless cycle of growth and decay. A »passage without trace,« as Jean-Francois Lyotard named this »monadic force without purpose or goal, representation or identification.«⁽²⁾ Its behaviour and transformation, its characteristics of duration, pitch, amplitude, frequency, and timbre become its content and this content is the experience of its own unique intensity. Some even say it is the genesis of life itself; a shifting, dynamic, pre-individual field of virtualities and endless becomings.

As artists, composers, designers and technicians, scholars, writers, and critics, we think we *know* the substance and mate-

rial I describe above – that is, *sound*. The word was etymologically derived from the Latin word *sonus*, which signified a sensation perceived by the ear. Yet, despite prodigious work from scholars (not to mention sonic prone artists) over the last 30 years in new fields like sound studies which has sought to understand the socio-technical as well as cultural origins and uses of auditory culture in an effort to remedy what Douglas Kahn famously called »the deaf century« – we are all still continually faced with having to describe and manipulate something akin to the invisible – a force and friction that moves through and around while also *changing* bodies.

»It's all vibrating with a vital force. Whether it was fabricated by machine or fell from the side of a mountain underneath the erosion of water. All that stuff is moving in different scales and times and it's moving with what I believe is some sort of vitality. And that's the vitality that is perceptible (as sound) when one decides to pay attention to the vibration around oneself.« – Bruce Odland⁽³⁾

How to confront such a phenomenon that undergoes states of continual transformation? Vibrations that emanate from a disturbance; their affects by which all kinds of bodies are transformed into what Steve Goodman called a »resonating vessel;« that crystalline moment when those vibrations transcend

a threshold, meeting an organ that decodes and allows them to make their transition from the vibratory to the audibly or even haptically perceived – that moment in which we *sense*.

This journey of matter, of compressed and rarefacted molecules of air making their way from the physical to the psychosocial-cultural via the technical is the stuff of all of the artists and researchers involved in CTM 2015's *Un Tune* theme or, perhaps more appropriately, *un-sound*. I say *un-sound* in the sense that simply stating we are »sound artists« is somewhat of a misnomer.

Unlike other artistic materials such as paint, clay, or even the human body, sound itself is, in fact, not really a medium since the word itself, etymologically speaking, describes not a thing but a sensation – a psychological condition. For something to sound signifies that it needs a perceiving organ, be it the ears, brains, and bodies of humans, animals, or other potentially listening forms that might be adrift in the universe beyond our knowledge and comprehension. Quantum mechanics debates aside, when we say we are artists and musicians working with sound, what we really mean is that we are artists who work with waves that travel through a medium (as opposed to light) and take their physical form as mechanically felt sensations.⁽⁴⁾

To state it more boldly, to work with waves that eventually *may* take their form as sound is to work with the very stuff of the world itself, what the sociologist of science Andrew Pickering has called its *material agency* – that is, to experiment with what such waves do as material forces that partially constitute the world.⁽⁵⁾ You don't have to take my or Pickering's word for it. After all, Hindu cosmology argues that sound (*nada*) is at the heart of creation and that the world emerges from vibration, symbolized in the sacred syllable Om.

To think about a wave's material agency is thus to step outside of our comfort zone; to abandon the sense that we really can know it and, more importantly, to give up on the assumption that there is an unblemished, pure path of experience from the artist and the artistic work to the listener that is outside of other forces, namely, the socio-technical apparatuses that newly construct and constitute us as listening subjects everyday. Indeed, as sociologists and anthropologists of science have long told us, phenomena like waves, as many of the other objects discov-

ered by science, are not pre-given in the world but only come about tenuously and temporally through instruments and processes. In the process of what philosopher of science Gaston Bachelard called *phenomenotechnique*, the construction of an object of knowledge or experience is partly achieved through these instruments – devices that assist in »purifying [...] natural substances and thus bringing order into nebulous phenomena.«⁽⁶⁾ Similarly, the descriptive machineries of natural sciences like physics offer us language for the action and qualities that waves enact: elasticity, plasticity, force, strength, strain, resonance. These are qualities also outside of human or animal perception and cognition but which constitute what we eventually come to perceive as the aural and the tactile.

»»SOUND ARTISTS« IS SOMEWHAT OF A MISNOMER«

Can we, as artists who work with waves in all aspects of our aesthetic lives, then really know their material agency? Strangely enough, a Cambridge University archaeologist gives us a way to address this question. In enlisting Pickering's concept of material agency, researcher Lambros Malafouris focuses on one of the most primal creative acts of working with materials: pottery making. Malafouris asks a relatively simple question. Who or what makes the pottery? The classical story that we are taught in art school and that is continually reinforced in the newspaper feuilletons is that the object springs from our heads, filled with inspiration and genius, and magically appears in the world, anxiously awaiting decoding and interpretation, that is, meaning, from the observer or listener. This is a story of intention, control, planning, and knowing the future.

But Malafouris has another story to tell. Within the artistic process of producing a piece of pottery, the clay on the wheel should be considered neither some external object of the potter's intentional mental states (inspiration) nor a hunk of inert stuff, but *co-constitutive* components of the overall pottery experience. There is a continual interplay between the potter and the wheel/clay not because there are locked-in, pre-inscribed actions to be expressed in either entity but because the spatio-

»TO WORK WITH WAVES THAT EVENTUALLY MAY TAKE THEIR FORM AS SOUND IS TO WORK WITH THE VERY STUFF OF THE WORLD ITSELF, WHAT THE SOCIOLOGIST OF SCIENCE ANDREW PICKERING HAS CALLED ITS *MATERIAL AGENCY*«

temporal dynamics of the situation and the environment bring forth and enable certain actions in an always contingent and potentially unknown (and unknowable) way.⁷⁷⁾

In other words, the spinning clay wheel, the thickness, wetness, and age of the clay, the hands of the sculptor, and the degree of light in the room all exert a pull on each other, shifting in intensity, influencing and shaping the level of »material engagement« that transpires between the sculptor and the »matter« at hand in an ongoing process of temporal evolution.

Malafouris' concept of material engagement is extremely powerful. It suggests that agency is not located in objects or things but rather situated in practice; it is »the flow of activity itself.« »Agency is in constant flux, an in-between state that constantly violates and transgresses the physical boundaries of the elements that constitute it.«⁸⁾ It becomes alien, defying our attempts to control it, seeping across the stuff of the world, unbounded, not subjected to containment within rigidly defined categories such as subject or object, human or animal. It escapes position, location – all of those spatial metaphors that continually aim to prove that if we can locate or map something we can thus know it.

The concept of waves and eventually sounds as alien agencies that exist in between humans, instruments, and forces in the world also suggests something else; a place where that concept of *affect*, the preconscious, precognitive impact of things, bodies, forces at a distance on other bodies, can now rear its hydra-like head.

Affect describes a feeling, a sense, an in-between state that impacts bodies but can't easily be localized. As Félix Guattari argued, affects are »installed ›before‹ the circumscription of identities and manifested by un-locatable transferences, un-locatable with regard to their origin as well as with regard to their destination.«⁹⁾ Yet, if audio-visual perception by way of hearing and seeing seems lodged in subjects, in the tiny nerves, ossicles, and retinal blood vessels, mucous-like materials and liquids that flow through and constitute ears and eyes, brains and bodies, then affects do something else. They move through and circulate within the world without specific landing sites.

Starting with Spinoza and moving down through the philosophical, cultural studies and literary canon of work from Bergson,

Deleuze, Guattari, and more recently, Brian Massumi, Patricia Clough, Steven Shaviro, Marie-Luise Angerer, and others, the genealogy of the culturally denoted concept of affect lies beyond this brief foray into un-sound.¹⁰⁾ But the debate about whether affects are pre- or post-social, pre- or post-cultural, are trapped in or liberated from questions of identity and subjectivity, or enabled, halted, or transformed through the social-technical world of things, processes and entities beyond strictly human acts that have much to do with un-sound and its singular power which, despite our attempts to know, harness, and control it, somehow always slips from our human-driven grasp.

In his late work entitled *Francis Bacon: The Logic of Sensation*, the philosopher Gilles Deleuze dealt with how each artform uses its own materials and forms to render what he termed the »invisible.« Sensation occurs in the painter Francis Bacon's work through the combination of painted, »hysterized« sensations and the individual perceiver engaging directly with the rhythms and resonances of the disintegrating figures and objects in the paintings. Bacon's paintings hold a power which »overflows all domains and traverses them.«¹¹⁾

What Bacon paints in his numerous tableaux is not an object but a tangible someone or something experiencing the lived sensations of transformation. Bacon's tormented images vibrate with the experience of their own sensation; they jump back and forth between the recognizable and the irrational, forming »zones« of intensities, of affects that circulate in and around us. The images modulate before our vision, creating a world that moves between the concrete and the metaphysical. »Intensity,« says Deleuze about our experience of Bacon's world, »is simultaneously the imperceptible and that which can be sensed.« It is the experience of a chill that travels down the spine at the thought or sight of something undefinable; an imperceptible force felt through the skin.

Deleuze was no stranger to either thinking in terms of concepts of intensity through waves or to those who work with waves' intensities. As many readers of this article know, after Deleuze's death in 1995, Achim Szepanski's Frankfurt-based avant-garde *Mille Plateaux* label issued a two-CD tribute to the philosopher, entitled *In Memoriam: Gilles Deleuze*, and featuring the work of half a dozen composers and sound artists including Chris and Cosey, Jim O'Rourke, Scanner, Mouse on Mars, and others.

Moreover, throughout their writings, Deleuze and his foil and intellectual partner in crime Félix Guattari continually invoked sound and its creators like Cage, Busotti, and Nono from the far reaches of the 20th century musical avant-garde in their attempts to articulate the invisible. Indeed, artists work not with images or sounds (or un-sounds) but with intensities and affects. Artists aim »to wrest the percept from perceptions of objects and the states of a perceiving subject, to wrest the affect from affections as the transition from one state to another: to extract a bloc of sensations, a pure being of sensations. A method is needed, and this varies with every artist and forms part of the work.«¹²⁾

»AGENCY IS NOT LOCATED IN OBJECTS OR THINGS BUT SITUATED IN PRACTICE«

Concepts like the affect and alien agency of un-sound may thus assist in helping shatter our old human-exceptionalist world-views of what it means to work with and listen to waves in the 21st century. Instead, the way un-sound comes about through entanglements of artists, technical instrumentariums of hardware and software, psycho-social conditions, and the environment itself rewrites the old narratives and suggests new stories: waves as phenomena and the perception of such phenomena may not strictly signify localized sense making in the body anymore; as un-sound artists we may only partially command the material we are working with; as listeners we may be subject to the interloping of other agencies and forces in the act of perceiving; as humans we may never really come to know those waves and their behaviours and actions that constitute and make marks on the world.

Yet, that un-sounds are alien doesn't rid us of the human or imply a world of objects without us. Quite the contrary: it makes us realize that to be human today is to be mutable, transforming, alive with the possibilities of technoscientifically saturated life by which we will be thwarted in our attempts to harness and control it. In these conditions, perception between un-sound, the machine, and the perceiver blurs. It emerges from

and latches onto affects flowing through the world and not the other way around.

Chris Salter is an artist, University Research Chair in New Media, Technology and the Senses at Concordia University, and Co-Director of the Hexagram network for Research-Creation in Media Arts, Design, Technology, and Digital Culture in Montréal. He studied philosophy, economics, theatre, and computer music at Emory and Stanford Universities. Salter's artistic work and research has been presented in festivals, exhibitions, conferences, and lectures around the world. He is the author of *Entangled: Technology and the Transformation of Performance* (MIT Press, 2010) and the *Alien Agency: Experimental Encounters with Art in the Making* (MIT Press, 2015).

– chrissalter.com

*1) Mertens, W. (1983), *American Minimalist Music*. London: Kahn & Averill, 119.

*2) Mertens (1983), 120–121.

*3) Salter, C. (2015), *Alien Agency: Experimental Encounters with Art in the Making*. Cambridge, MA: MIT Press, 41.

*4) From a perception-sensation point of view, sound is classified as a mechanoreceptor since it involves mechanical forces such as pressure and vibration. Touch, while also mechanical (since it involves pressure) also is classified as a chemoreceptor.

*5) Pickering, A. (2010), »Material Culture and the Dance of Agency«, In *The Oxford Handbook of Material Culture Studies*, Hicks, D. and Beaudry, M. C. (eds.), Oxford: Oxford University Press, 191–208.

*6) Rheinberger, H.-J., (2010), *On Historicizing Epistemology: An Essay*, translated by David Fernbach, Stanford: Stanford University Press, 23–25.

*7) Malafouris, L. (2008), »At the Potter's Wheel: An Argument for Material Agency«, In *Material Agency: Towards a Non-Anthropocentric Approach*, Knappett, C. and Malafouris, L. (eds.), Vienna: Springer, 19–36.

*8) Malafouris, L. (2008), 35.

*9) Guattari, F., (1990), »Ritornellos and Existential Affects«, translated by Juliana Sciesari and Georges Van Den Abbeele, *Discourse*, Vol. 12, No. 2, Spring-Summer 1990, 66.

*10) See Greg, M. and Seigworth, G. J. (eds) (2010), *The Affect Theory Reader*, Durham and London: Duke University Press.

*11) See Polan, D., »Francis Bacon: The Logic of Sensation«, *Gilles Deleuze and the Theater of Philosophy*, Boundas, C. V. and Olkowski, D. (eds.) (1994), New York: Routledge, 229–254.

*12) Deleuze, G. and Guattari, F. (1994), *What Is Philosophy?*, translated by Graham Burchell and Hugh Tomlinson, London: Verso.

SOUND & ANCIENT SACRED PLACES

BY PAUL DEVEREUX

A leading figure in archaeoacoustics – the study of sound at archaeological sites – Paul Devereux explores the meaning of environmental sound and acoustic phenomena to prehistoric and pre-modern people. Drawing largely from his own fieldwork, he shows how acoustic properties of rock formations or stones found at ancient sites such as Stonehenge held ritual significance, and demonstrates the importance of careful listening to modern-day archaeology.

INTRODUCTION

Over recent decades, researchers have increasingly realised that ancient sacred sites – both venerated natural places as well as monuments – can sometimes provide various kinds of acoustic information to aid archaeological interpretation (e.g. Hedges 1993; Lawson *et al.* 1998; Devereux 2001; Goldhahn 2002). However, it is only within the last several years that the study of sound at archaeological sites has been given an official title – namely, »archaeoacoustics« (Scarre and Lawson 2006).

The idea of archaeoacoustics might seem to be counter-intuitive. We associate sound with transience, while archaeological sites, by definition, embody ancient time. But while we today might try to minimise or mask unwanted environmental sound (i.e. noise), people in early societies would have found the act of listening to sounds in their quieter world to be of crucial importance, both for hunting and for survival. It would also have been the case that to prehistoric and pre-modern people who did not have a scientific, wave-based model of acoustics, sound would have seemed magical: in certain circumstances, wind rustling through foliage was perceived as the murmuring of gods, echoes were the teasing calls of spirits, and the hiss and roar of waterfalls and the babble of streams contained voices from the spirit Otherworld (Turnbull 1961/1968; Jaynes 1976; Mohs 1994; Gell 1995; Feld 1996).

That environmental sound was consciously appreciated at least as far back as the Classical world is indicated by writers such as Vitruvius, who wrote about architectural features, locations, and devices relating to the acoustics of Roman and Greek theatres (Rowland and Howe 1999), or Pausanias, who remarked on a stone at Megara (at a now-vanished temple in Greece) that made a lyre-like sound when struck with a pebble and was

said to have been where Apollo put down his lyre (Pausanias, *Description of Greece* 1. 42. 2). There is no reason to doubt that Stone Age ears would have been aware of environmental sounds, such as the rumbling echoes and other acoustic phenomena of cavern systems (Casteret 1940; Bruchez 2007). Indeed, the close examination of naturally musical stalactites and other calcite formations in Palaeolithic painted caves in France and Spain has revealed percussion damage occasioned in remote antiquity (Dams 1984, 1985). The presence of Upper Palaeolithic bone whistles or the sophisticated use of stone chimes in ancient China and India similarly reminds us that people always had ears. We too easily forget this obvious fact.

METHODOLOGY

The study of sound at archaeological sites breaks down into three basic forms of investigation:

1. Modern performance of music, singing, or chanting at ancient sites to experience their acoustic properties.
2. Investigative research using monitoring with *electronic* instrumentation, or the *manual testing* of rock acoustics at a site.
3. Simply listening to the existing, natural sounds of a place.

In my work, I am interested only in 2. and 3. – I want to hear what the places themselves have to say.

INVESTIGATIVE RESEARCH

My two areas of this methodology involve both manual and electronic studies of sites.

1. Manual Testing: Ringing Rocks/Lithophones

There are certain, relatively rare natural rock features – boulders, outcrops, rock projections, isolated slabs, or megalithic features – that have the distinctive quality of producing metallic

or even musical sounds when struck with a small hammerstone. They can produce gong- or bell-like tones or other ringing effects, rather than the dull, hard impact sound normally associated with rock impacting rock. Such rocks are known as »ringing rocks,« and where they are used deliberately to produce their special sounds, or show evidence that they were so used in the past, they are called »lithophones.«

Today, ringing rocks/lithophones are considered simply as curiosities, but that was not the case in the ancient world, where they were always thought to contain special, magical qualities. For instance, the Chinese had *bayinshi* – resonant rocks – which they thought contained extra concentrations of supernatural force, *chi*. At least some American Indians used them at vision quest locations or for rites of passage rituals (Figures 1 and 2). In Scandinavia, ringing rocks were struck to ward off evil spirits, and they were used for ritual purposes in many parts of Africa. In India, Neolithic rock art was carved on ringing rocks, and millennia later sophisticated musical stones were installed in Indian temples – a high technology of stone music had developed there over the ages (Boivin, 2004; Devereux 2010). As previously noted, there is clear evidence that much further back in time, 10,000 years ago or more, stalactites were struck to produce musical sounds in Palaeolithic caves.

»TO PREHISTORIC AND PRE-MODERN PEOPLE WHO DID NOT HAVE A SCIENTIFIC, WAVE-BASED MODEL OF ACOUSTICS, SOUND WOULD HAVE SEEMED MAGICAL.«

I have tested and audio-recorded lithophones in the Americas and in the British Isles over many years. Among numerous examples in Britain, there is the Balephetrish Stone on the island of Tiree, off the western coast of Scotland (Figure 3). It is a glacial erratic, not native to the island, that rings like a bell when struck, and is indented with over 50 cup marks. It is believed these marks result from its use mainly in Bronze Age times. Another example is a little-known lithophone on the holy isle of Iona, which has a carved niche that holds a hammerstone –

nobody seems to know the story behind this feature (Figure 4). In particular, as part of a project for London's Royal College of Art (www.landscape-perception.com), my co-researcher Jon Wozencroft and myself have been conducting a long-term acoustic investigation of Carn Menyn in the Preseli Hills of South Wales (Figure 5), the source area of the Stonehenge bluestones. These are the smaller stones at the monument that were erected long before the mighty sarsen stones with their lintels, which most people associate with Stonehenge (Devereux and Wozencroft 2014). The Preseli area is rich in prehistoric monuments and was clearly regarded as a special, sacred district in Stone Age times.

In conducting detailed testing of many hundreds of rocks on the outcrops scattered along the Carn Menyn ridge (Figure 6) we have found a high incidence of ringing rocks, and at least one definite lithophone – as evidenced by cup marks on it – alongside an ancient spring on the Carn Menyn slopes. It would seem that the Neolithic people who roamed this area, and took stones weighing up to seven tonnes each from here all the way to the site of Stonehenge on Salisbury Plain some 300km away, knew that the rocks made music. Local people have long known of the ringing qualities of the rocks, as there is a Preseli village with the Welsh name of »Maenclochog,« meaning ringing or bell rocks.

As part of our study we secured unprecedented permission to acoustically test the bluestones at Stonehenge with hammerstones (Figure 7). We found sufficient evidence there to indicate that at least some of them would have been ringing rocks in more resonance-conducive circumstances. (Ringing rocks need air space around them to resonate, and unfortunately the bluestones are set into the ground – or now even concrete – which dampens any ringing qualities.) But even without this evidence, the fact that bluestones at this iconic monument were brought from a sacred soundscape could by itself have caused the Neolithic architects to treat them with special veneration. Did the megalith builders believe that the stones were invested with special magical power, *mana*? We know that »pieces of places« (Bradley 2000, p. 88) were passed around over considerable distances in the Neolithic era, presumably because they were considered to be redolent with sanctity in the way the relics of saints were perceived in medieval times. Put bluntly, was sound a key reason behind the otherwise inexplicable transport of these stones from Preseli to Salisbury Plain?

»WE ASSOCIATE SOUND WITH TRANSIENCE, WHILE ARCHAEOLOGICAL SITES, BY DEFINITION, EMBODY ANCIENT TIME.«

2. Electronic Testing

The use of electronic sound equipment to investigate the acoustic qualities of megalith sites has been exemplified by two research projects to date. David Keating and Aaron Watson mapped the behaviour of generated sound (wide frequency »pink noise«) at numerous megalith sites (Watson 1997; Watson and Keating 1999). During research at Stonehenge, they noted evidence that some of the sarsen uprights had been so shaped that they reflected and directed sounds within the interior of the monument. At some sites they were able to use such mapping to suggest where a priest or priestess would most probably have stood to speak, sing, chant, or play a musical instrument.

I was involved with an equally early (mid-1990s) investigation with the Princeton-based International Consciousness Research Laboratories (ICRL) group studying acoustic resonance inside megalithic chambered monuments (see Figure 8, for example).

We found that enclosed stone chambers within a random selection of such monuments in England and Ireland had a recurring primary resonance frequency focused on 110 Hz, the lower baritone register of the human voice (Devereux & Jahn 1996; Jahn et al. 1996). This frequency has subsequently been found to have unexpected effects on human brain activity (Cook 2003; Cook et al. 2008):

Listening to tones at 110 Hz was associated with patterns of regional brain activity that differed from listening to tones at neighbouring frequencies; differences were particularly noted in left temporal and prefrontal asymmetries. The meaning of these changes is open to speculation. The left temporal region has been implicated in the cognitive processing of spoken language; lower cordance values at 110 Hz would be consistent with reduced activation under that condition, which might be interpreted as a relative silencing of language centres to allow other processes to become more prominent. (Cook 2003)

Certain claims about the properties of sound at 111 Hz are often touted in magazines and on the World Wide Web: while sound at 111 Hz does fall within the optimum 110 Hz range, it is important to note that these claims are based on the work we did in the 1990s. Anyone talking about 111 Hz did not conduct the original research (if any fieldwork at all) – it is all too easy in today's Internet age to lose the provenance of information.

3. Listening

The old stones can »speak« in a variety of natural ways, some of which can be detected simply by listening. There is space here to briefly mention only a very few examples.

Echoes are a chief natural sound at numerous ancient sites (Figure 10). It was the case in much of the ancient world that echoes from rocks, cliffs, or inside caves were thought to be spirit messages or taunts. In widely separated cultures, rocks and cliff faces were viewed as being the abode of spirits (e.g. Lewis-Williams and Dowson 1990; Rajnovich 1994; Levin and Suzukei 2006). Places with notable echoes are often marked with ancient rock art (Waller 1993; Reznikoff 1995; Devereux and Nash 2014).

Apart from echoes, other natural sounds at ancient sacred sites can be many and varied. At the tholos (»beehive shaped«) tomb known as the »Treasury of Atreus« at Mycenae, for instance, a distinct buzzing sound around the curved walls can be heard, very similar to that of a swarm of bees. The buzzing is caused by the distortion of external ambient sound coming in through the great portal of the tomb, and is a variant on the well-known »whispering gallery« effect. There is a possible symbolic aspect to this buzzing effect in that the ancient Greeks associated bees with immortality, and it was thought the spirits of the dead could enter bees (Devereux, 2006).

Another example of a sound anomaly is provided by Petroglyph Rock in Petroglyphs Provincial Park, near Peterborough, Ontario. It possesses the largest concentration of ancient rock-face engravings in the province and some say in the whole of Canada. The rock is known to the Indians as *Kinomagewap-kong*, Teaching Rock. The engravings are reckoned to be between 600 and 1,100 years old. But why should this particular slab of rock (metamorphosed limestone) have so many carvings when others around have none? Local enquiries during a site visit I made with colleagues revealed the probable answer: a five-meter-deep fissure cuts across the rock's surface; at random times the sound of underground water can be heard issuing from its depths. Witnesses describe the sound as being remarkably like the babble of voices – voices of the spirits, the *Manitous*. The rock was therefore probably an oracle site, explaining the preponderance of the carvings. (An Ojibwa elder later confided to me that this interpretation was correct.)

As yet another example, there is the Blowing Stone, now in a misplaced position near Oxford, England, that has a number of natural holes in it. By blowing into one of these a deep, resonant note is produced than can be heard up to a few kilometres

away. The sound is very similar to the bellow of a stag, and it has been suggested the stone may have been used for hunting magic in Stone Age times.

The sounds of wind and water at certain places, as noted earlier, were often viewed as the sound of spirits in ancient times (and are still seen this way in a few surviving indigenous cultures). The archaeoacoustic investigator must listen carefully for any manner of natural sounds that might have made a place significant to peoples in the past – and be prepared to be surprised.

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Figure 1: The author using a small hammerstone to test a ringing rock at an ancient Indian vision quest site in a wilderness area of southern California. The stone slab rings like tubular bells. Its rock art marking likely represents the spirit believed to inhabit the rock, and is estimated to be 1,500 years old. Photo by Paul Devereux.

Figure 2: The Bell Rock at Bowers Museum in Santa Ana, California, is possibly the only natural lithophone held in a museum. It had been a ritual rock for local Native Americans, but in 1936 was brought down from Bell Canyon for safekeeping because it had been vandalised. It has hollows on its top surface as a result of being struck by hammerstones over many generations. Now placed on a concrete plinth, it no longer has the air space around it to allow it to resonate, and can no longer issue its bell-like tone. Photo by Paul Devereux.

Figure 3: The Balephetrish Stone on the Inner Hebridean island of Tiree, Scotland. Photo by Paul Devereux.

Figure 4: The mysterious Iona lithophone, with its own hammerstone lodged in a specially carved niche. Photo by Paul Devereux.

Figure 5: One of the many rock outcrops on the Carn Menyn ridge in the Preseli Hills, South Wales, source area of the Stonehenge bluestones. Photo by Paul Devereux.

Figure 6: The author testing the sound of a rock on Carn Menyn in the quiet of night. Photo by Sol Devereux.

Figure 7: Jon Wozencroft using a hammerstone to test a Stonehenge bluestone for its acoustic qualities, as part of the Royal College of Art's »Landscape & Perception« project. Photo by Paul Devereux.

Figure 8: The great Neolithic chambered mound of Newgrange, Ireland, over 5,000 years old. Its great central chamber was tested as part of the ICRL resonance-testing project, and found to have a primary resonance of almost exactly 110 Hz. Photo by Paul Devereux.

Figure 9: The author conducting resonance tests in 2014 inside the chamber of the Welsh Neolithic chambered mound of Barclodiad-y-Gawres. Photo by Charla Devereux.

Figure 10: This rock face rising out of Mazinaw Lake, Bon Echo Park, Ontario, has remarkable echo characteristics. About 200 ancient Native American (ancestral Algonquin) rock art paintings (pictograms) are daubed on it in red ochre, just above the water line. Photo by Paul Devereux.

THE HORIZON OF AN UNTUNED EAR

BY LAWRENCE ENGLISH

»Can one listen to a listener's listening? Can one transmit that listening as unique as it is?« From the passive processing of sounds from our everyday environment – moving through technology, physiology, and socio-cultural and aesthetic considerations – Lawrence English explores the myriad possibilities of what it means to »listen« in order to speculate on how we might begin a process of untuning our listening, and in doing so asks for an absolute reconsideration of how we theorise listening.

To *untune* implies that there is a point at which *tune* has been calculated and accepted. Often we can only know what something is through a categorical rejection of what it is not. Finding this point of agreed categorisation requires a confluence of theoretical, technical, socio-cultural, and broad physiological conditions that must be recognised and repeated. The repetition is a kind of cultural resonance, a lingering understanding that persists from generation to generation, albeit with sculpting and the occasional rupture in the depth of understanding.

When contemplating listening, which has become commonly understood as the practice of extracting meaning (spatial, semantic, and the like) from vibrations in air, the point at which *tune* was settled on only emerges in the recent past. Whereas traditions such as portraiture, sculpture, and even performative musics have enjoyed centuries of refinement and the associated critical discourses that accompany that process of sophistication, sound studies has largely suffered from a certain muteness. Until very recently it has lacked rigorous investigation, the reasons for this reflecting our emergent engagement with many sonic phenomena and specifically the reproduction of sound, which traces a history of just over 150 years. As we come to explore and develop greater understandings of sound both audible and inaudible, we have also begun a process of considering how our audition of these sounds takes place and moreover of how we can engage with these phenomena, not just as inert, essentially unconscious bodies, but as agentive conscious performers.

Fundamentally, our capacity to understand sound is through listening. It's important to extract the act of listening from the sense of hearing. Listening is not the mere perception accorded to hearing, but rather an agentive, agenda-driven process that is ultimately an earned condition stemming from an individ-

ual's socio-cultural, linguistic, political, aesthetic, and psychological concerns and also their physiological abilities. Within these variables, we have developed a series of understandings of what we might call the *tuned* conception of listening.

This baseline conception of our audition reflects substantial research around the biological and anatomical aspects of our hearing receptacles, the ears. Moreover it represents some considered theoretical analyses of listening developed by 20th century authors and composers including John Cage, Pierre Schaeffer, R. Murray Schaefer, Don Idhe, and Michel Chion. Recently the contributions of authors including David Toop, Salomé Voegelin, and Seth Kim Cohen have broadened the premise of listening, pushing us to reconsider how it is we might begin a process of *untuning* our listening. For this untuning to be of value and to contribute to a profound understanding of how listening can be critically framed, we must undertake an absolute reconsideration of how we theorise listening. We must push beyond the predominantly functional modes of listening crafted by theorists such as Chion, who provoked us so critically, in order to contemplate our listening deeply and with a restless curiosity.

OCCUPY OF THE EAR

When approaching sound, the ear, the body, and the mind are subjective, idiosyncratic nodes on a complex network of potential perception and interpretation. There is a promise of fathomless engagement, both psychological and physiological, that may be manifest through this interaction. For this promise to be made good, however, it requires us as listeners, to be *present*. This opportunity to be *present* and to attend to our potential as a listener is haunted by the ghosts of our experience to date. These opaque spectres can cloud our abilities and limit our willingness to conceive of new possibilities or advances in our

capacities to listen. In short, they are metaphoric scarecrows, keeping us away from the crops of possibility. Furthermore, while we may not have literal earlids, this does not preclude us from separating ourselves from that which is around us. The sum of us, our socio-cultural baggage, our aesthetic capabilities, our curiosity, our physical condition, and ultimately our willingness to be agentive, are at the root of our potential not just *to be*, but *to be present*.

This prospect of being present and the variations accorded to this state are key to understanding why listening can never be a homogeneous condition. The dimension to our being present is conditional on the self, framed within the variables outlined above. Thus, at any moment, we may share a time and place but our experiences of the dynamic auditory events that go on in that shared environment may include few commonalities. We might hear similarly, but to what it is we listen and give awareness may be almost entirely unrelated.

»LISTENING IS NOT THE MERE PERCEPTION ACCORDED TO HEARING, BUT RATHER AN AGENTIVE, AGENDA DRIVEN PROCESS THAT IS ULTIMATELY AN EARNED CONDITION«

With the lack of uniformity, though, comes a promise for acumen and perspective upon which we as artists and creatively engaged listeners can convey to other ears. The challenge lies in the transmission of these listenings. If we are to untune our ears, to push beyond the confines of tuned understandings of listening and make a space for experimentation for this foundational engagement with sound, then we must address the way in which these perspectives can be transmitted. We must ascertain means through which these politically driven, agentive acts of listening can be made to resonate beyond their moment of existence. They must be able to recur, to echo in other places, other times, and make connections to other ears, conveying their exclusive focus.

In his book *Listening*, Peter Szendy offers two very provocative questions that drive at this issue. He asks: *Can one listen to a listener's listening? Can one transmit that listening as unique as it is?*

It's these two provocations that open a rich vein of investigation for those mindful of how we listen. Most importantly, the questions invite a dialogue around issues that are situated at the very fundament of our auditory participation. They ask us to consider listening not merely as functionally uniform, but as *unique*. The listener's listening is a performance. It is a way in which that listener can shape, through all manner of internal psychological techniques (and physiological ones too), a sculpted sonic impression of a given time and place.

This impression is forged by our abilities not just to receive, but also to reject. At this very moment, consciously or not, you are participating in this kind of anti-listening. It's a deadening, a defining muteness that negates the opportunity for any form of tuning or for that matter untuning, which requires a consciousness within the listener. If you stop for a minute now and re-engage your listening, a wealth of otherwise ignored sounds should come to audition and may appear static or dynamic. These sounds are, however, in flux; they are non-repeatable, and in this moment of comprehension, they become extinct. As you perceive them, they have already expired, never to be experienced under those circumstances again.

RESURRECTION OF THE TRANSMISSION

If we accept the challenge to untune our ears and seek to transmit our unique listening, we are breaking from the functional and prioritising more radically invested modes of listening (political, aesthetic, etc.) We assume an agentive position that desires to transcend the self. To do this we must occupy and perform our listening. This crafted listening, which prioritises some elements and shuns others, can be made to serve any number of creative interests in the listener. These listenings may reflect preoccupations, framings, or focuses of attention, they may equally and intentionally seek to reduce or ignore certain phenomena, something that dominated the interests of R. Murray Schaefer for example. However, the listening is trapped unless a means of transmission can be realised. How is it we can transmit this occupation, this uniquely actualised, perhaps even composed listener's listening and offer it for other ears to engage with? Ultimately, how do we, as artists, make available the listener's listening?

The answer to this predicament stems from the ever-present concern of any artist seeking to express his- or herself through the reproduction of sound. Sonic arts, for example field recording, must concern themselves with the reproduction of sound in time. Additionally the listener must come to recognise that within the reproduction of the listener's listening, two sets of ears are in relation. As well as the subject's organic listening, a second prosthetic listening is introduced through which transmission can take place. This prosthetic ear of the microphone brings with it a listening that shares none of the listener's internal psychological interests or agentive concerns. Rather, the prosthetic ear listens externally, a receptacle within which sound is captured but not considered.

In *Noise Water Meat*, Douglas Khan spoke of the phonograph's (and thus the microphone's) ability to *hear everything*. Perhaps not intended literally, this figurative explanation of the phonograph's lack of cognition was an important point of untuning for us as listeners. Before this point, trapped within the boundaries of our isolated phenomenological conditions, listening was an isolated practice. Transmission and thus comparative listening was not possible. Furthermore, at no point could an utterance of sound recur beyond the moment of its creation. There was no way to revisit sounds except abstractly via ascetical memory traced along an individual's neural pathways. With the phonograph, magnetic tape, and now digital recorders and associated microphone technologies, the opportunity to reconnect us to past auditory phenomena was made possible. The utterance could echo.

So with this second set of ears arrived both the potential for the listener's listening to be shared, but also the challenge of how the listener's listening might be expressed through non-cognitive, prosthetic receptacles. Now, as listeners, we were faced with learning to listen again, this time through the auditory capabilities of the prosthetic ear of the microphone. The boundaries of these listenings would need to be tested and accessed if transmission was to be successful.

Don Ihde, the American phenomenologist, was deeply interested in the boundaries of our listening and defined the concept of an *horizon of listening* in his seminal text, *Listening and Voice*. This horizon, unlike for example the horizon of vision, is not fixed. It is a fluid, dynamic horizon that extends and retracts according to the sounds active within that horizon. Like sound itself, the horizon is in a constant state of flux, extending and contracting through a complex set of variables that include the capacity and willingness of the listener. A less aware or interested individual undoubtedly shrinks the possible horizon of listening. Most importantly, what this recognition of a horizon of listening offers is a framework through which the challenges of transmission might be dealt with and specifically how it is we can build a *relational listening* between the organic, internal, and psychological listening, and the external, non-connotative, technological listening.

TOWARDS CONDITIONS FOR A RELATIONAL LISTENING

To build a relational listening between the organic and the technological ears, we must recognise that any listener's listening that is to be transmitted exists on two horizons. The first horizon of listening, the organic, is innately interior in its form. It is a psychological listening, one shaped within the concerns of the listener. It is an expressionist listening, one that is empathetic to the listener's desires and creative compulsions. This listening, as creatively intended, therefore carries with it a desire to transmit expression or experience beyond those modes of lis-

tening concerned with the experiential comprehension of that time and place. The listening emerges from spatial and temporal engagement to echo and recur in other times and other spaces. The second horizon of listening, collated through the microphone, does not bear these concerns. Rather it listens externally, a pure receptacle within which sound is merely captured. It is the device through which transmission is made possible, but must be made to serve the listener's listening. It is therefore important that the listener seeking to transmit their listening understands the implicit roles of both of these listenings. Moreover, that listener must occupy the space between the two modes, creating a mass of connective tissue, as it were, between the organic and the prosthetic.

Thus, it is relational listening that seeks to tether these two listening modes, the internal psychological and the external technological. Relational listening provides a systemic framework through which artists and other concerned practitioners can explore the conditions of their listening, specifically in the context of the desire to transmit those listenings. It considers not just the implications of spatiality, dynamics, and temporality, but moreover the political, aesthetic, dramaturgical, and other creative forces that bear down on a listener's listening. It is an invitation to untune our listening, to slide it out of phase with the historic modes of listening and begin anew with a temperament that shuns notions of listening as simple, perceptive functionalism.

Relational listening furthermore considers the role of the prosthetic ear as a device that creates a second horizon of listening, one which may be used to effectively capture a listener's listening by a manipulation of sound and that potentially enlarges our aural architecture and abilities to transmit listening. Relational listening, through recognising the potentials available to the contemporary listener, opens a conversation whereby we might meaningfully reply to Szendy's provocations »Can one make a listening listened to? Can I transmit my listening, unique as it is?«.

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»IF WE ACCEPT THE CHALLENGE TO UNTUNE OUR EARS AND SEEK TO TRANSMIT OUR UNIQUE LISTENING, WE ARE BREAKING FROM THE FUNCTIONAL AND PRIORITISING MORE RADICALLY INVESTED MODES OF LISTENING«

SOUND IN MOTION: UNDERSTANDING SPACE

JAKUB JUHÁS IN CONVERSATION WITH LUCIO CAPECE



Photo by Aniana Heras Cosin.

Perception and communicability comprise two key elements for many artistic explorations of sonic affect. When attempting to build shared experiences and open up unknown states of receptivity and awareness, musicians concerned with the affective potential of sound and music explore different compositional methods, tools, instruments, and technologies. Performative aspects range from mixed-media approaches to total immersion, and more extremely to the destabilisation of the listener and his/her environment. In anticipation of the premiere of his newest work at CTM 2015, composer and improvisation artist Lucio Capece shares his love of stillness and quiet, using his own specific kind of reductionism to explore the art of listening and performance as a means of transgressing physical and personal spaces, as well as of celebrating the exceptional strangeness of everyday life.

Jakub Juhás: In general I am very interested by the question of why an artist would want to involve recipients in experience of the more extreme sort – be this by volume, aggression, unusual tuning, or psychoacoustic effects or by slowness, contemplation, fragility, sensitivity – assuming that intensity does not only derive from something forceful or aggressive, but also from the opposite, of course, from delicate sensitivity.

Lucio Capece: All the aspects that you mention are fundamental for me, and express, in a very focused and concise way, my expectations regarding what I would like to offer when I make music.

First of all, majority of the music I make is indeed very quiet, but not the project that I will offer at HAU2 in the context of CTM, which is a piece based on the characteristics of the Yamaha RX-11 drum machine. The machine was built in 1980 as one of the first digital drum machines ever made, and has several independent outputs for its components. Basically what I do is to plug wireless transmitters into these outputs and amplify the machine's middle-high register sounds (hi-hats, riders, claps, etc.) using one tiny wireless speaker hanging from a helium balloon for each output. Four of these balloons will be slightly moving in the space, as they are pushed by propellers. Both the low and high components of the drum machine will be amplified by the main PA. Several other aspects round out the work, which I will not mention here so as not to make this description too long. My intentions are mainly to work with aspects of perception. Even if quietness and contemplation are basically my home, I do not intend to be part of or to create an aesthetic around them, but rather to offer and build a perception experience together with the audience.

What I do is music. I'm not a conceptual or performance artist. My main intentions and motivations are joy and knowledge, and I find those by going as deep as I can into the perception experience via sound, together with other elements that modulate that experience. To work within the perception experience itself is not even the main intention. It is rather the process through which I get in touch with the strangeness of everyday life that I find absolutely fascinating. I do not want to offer a spectacular or shocking experience, but instead to suggest the exceptionality of every day life. To work on this is very exigent and requires a lot of discipline. It is not just sitting down and watching, but really working on myself and trying to deconstruct habits in perception that make us experience events around us without noticing them. The greater part of these events are very complex, but appear to us as astonishingly simple. As a tendency I can say that I work on the beginning of these events, that is, when they start to become reality and take on a certain concrete existence. In that moment there is an ambiguity of behaviour in the events and in how we perceive them. This shifts the events and ourselves away from the automatic understanding that we usually have of them towards something more difficult to define and closer to their and our natures.

If what I want to offer is a perception experience, it is clear to me that the less I do, the more the focus will be somewhere

else. Here the audience will be creating an experience, which is much more interesting than being seduced by what I do on stage. My aim is thus to be as unnecessary as possible in creating this experience while remaining very strong and focused in that necessary minimum presence.

In this context I have found it necessary to work in a context of quietness and precision. But in the last years I began to become more aware of how these interesting events occur in areas not necessarily determined by my chosen context and its meditative mood. This is very new to me, and dangerous, because it forces me to abandon my safe place. There are temptations like becoming absorbed by other musical languages, or becoming a musician who develops projects according to the work division that exists in the music market, which has nothing to do with research, but rather with getting jobs.

»WHAT HAPPENS TO
YOUR EARS AND YOUR
PERCEPTION OF A
SPACE WHEN YOU PLAY
QUIETER THAN WHAT
THE SPACE MIGHT
SUGGESTS YOU
SHOULD«

JJ: Could you please explain your decision to use the Yamaha RX-11 drum machine? What place does this instrument occupy in your work?

LC: I have a personal history regarding this specific machine. It is basically related to Luis Alberto Spinetta, an Argentinian songwriter who passed away two years ago and who was the first musician who astonished me with his work. He performed as a songwriter backed by jazz musicians, created abstract lyrics, songs with strange shapes. In 1986 he made a solo album called *Privé*, totally self arranged, and with full-on use of an RX-11 drum machine for the first time. The album had a confrontational pop approach but was not at all commercially oriented. It is a very rare work. Spinetta was heavily criticised by the press and his fans, including myself. Through the years I began to appreciate his strength to step out of his own comfort zone and his talent to create a brilliant album going against his established path. Today *Privé* is my favourite album of his, and one of my favourite records of all time for its freshness and musical quality.

I bought the drum machine several years ago and played on it for years, but couldn't find a way to use it in my own music. Recently I began to think *not* about using the machine in a more

»interesting« way than what it was originally meant to do, but rather about using it for what it was designed to do, that is to play rhythms; this in itself could be interesting enough. The machine's independent outputs are part of its personality and allowed it to become part of my deepest aspirations when I connected seven wireless speakers to it. The drum machine itself became my room, and the room became rhythms and beats. I started working with the balloons around four years ago. The main element of sound is movement. It is a vibration – from the beginning to the end of its existence a sound is the vibration of something. The first time I used an amplified sound in movement was when I hung a tiny iPod and a headphone from a helium balloon to diffuse pre-recorded sine waves. I wondered why, if sound is basically movement, the speakers are not also used in motion. A bit later I got ahold of wireless speakers that allowed me to amplify sound produced in real time.

JJ: Taking off from there, I would be very interested in how you think about the balance between communal experience and subjective individual experience, which obviously – in the case of your performances – take place simultaneously. Do you actively try to shape these parameters?

LC: These are fundamental aspects. Music always has a subjective element, and changes according to the listener's position in the room and many other aspects. But honestly, I do not think this is usually considered thoroughly enough. We take it for granted that you will create a personal experience according to your own history and to the place you currently find yourself.

Music tends to be very projectional and has a lot to do with impacting the listener and with focusing attention on the performer or the tools he/she uses. I try to work in terms of diffusion (instead of projection) and on the self-creation of experiences. In the case of my drum machine piece, my approach combines highly defined elements (the PA system, the static balloon speakers, the average illumination of the room during some sections of the performance) with others that are much more ambiguous (four slowly moving balloons, UV light in some sections of the performance, specific sound elements in each of the seven wireless speakers that sound later than the PA speakers due to wireless transmission). The clash between defined and ambiguous elements intends to slightly confuse with regard to what is stable and what is not. If everything is in motion, then movement is the stable element. If something moves and other elements do not, then none of the elements are stable enough to create that safe background feeling. Trying to put that instability into the performance room demands that each person makes her/his own adjustments.

Regarding the difference between individual and collective experience, I basically work with the same idea. I work with the friction between the general elements that everybody can listen to or see, and the specific elements that remain more prevalent to specific members of the audience. These elements can change their position and relative importance, as if they were walking in the room as further members of the audience.

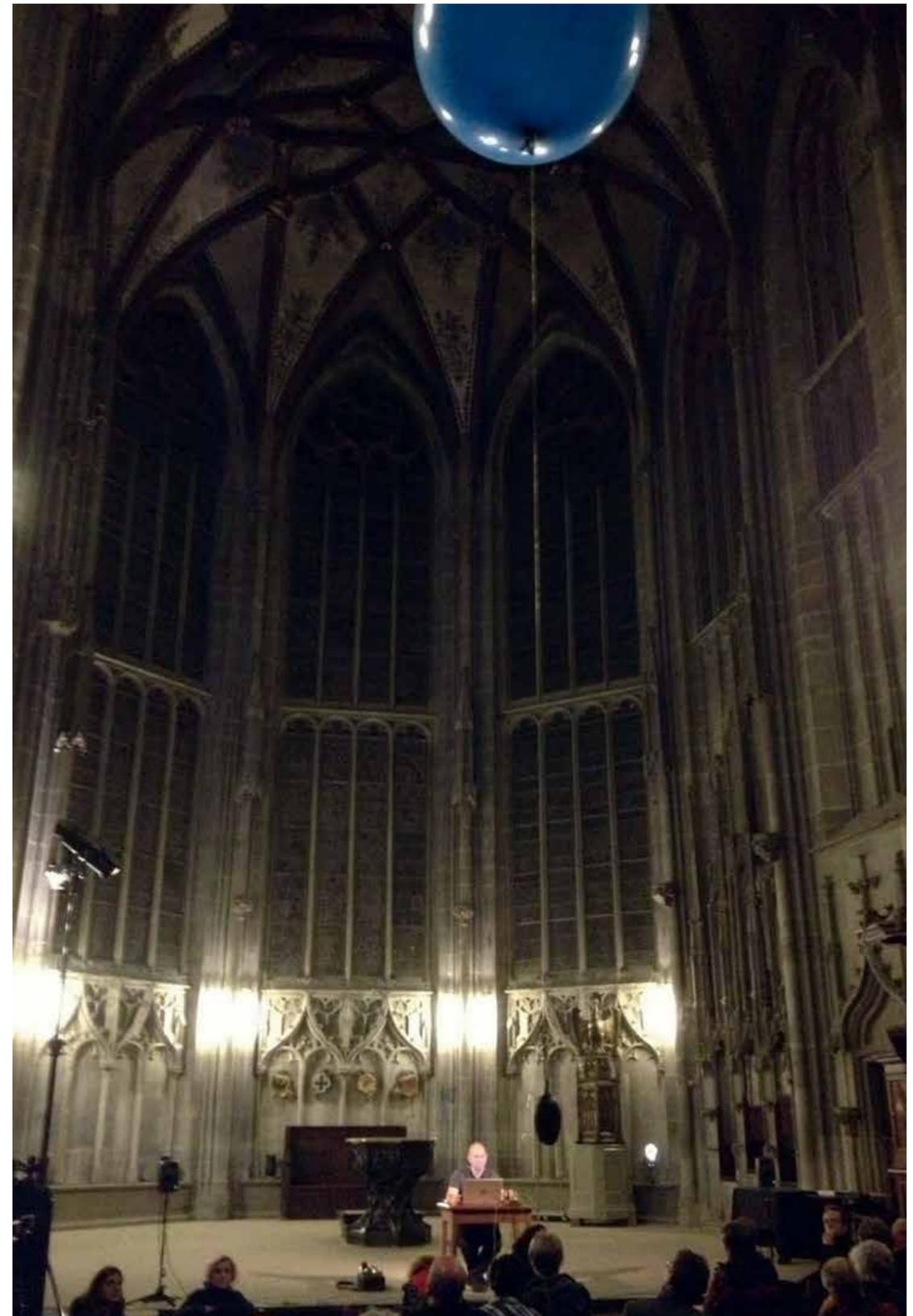
Then there is another element that I find interesting, namely what happens to me as a performer when I focus on the above aspects. When you focus on diffusion and on the perception experience as a sound creator, searching for your materials and tools according to this intent, the experience becomes very strong. The experience is quite different when you focus on the tools or materials you offer to the audience and consider a certain space as the given environment for your music without paying specific attention to it.

»I DO NOT INTEND TO SHOCK OR IMPRESS THE AUDIENCE, BUT RATHER TO CALL ON THE IMPRESSIVE TOOLS THAT INHABIT US«

JJ: In looking at your previous work overall, it becomes apparent that you like graceful movement on various musical fronts. Whether we talk about sound architecture, space philosophy, aspects of silence, activity of sound frequencies, sociology of listening, or about interest in new technologies in musical performance, I'd rather refrain from sorting which forces a musician uses, in order not to narrow his/her interests. But in your case the concept of »the sonic« (as defined by Wolfgang Ernst) arises quite naturally, exactly for the reason that the sonic permeates (transgresses) boundaries between sound and music, composition and improvisation, music and acoustics, light, space, time, and technical vision of a piece. Do you see these phenomena as a single structure or do you explore them separately?

LC: I never had the intention to work on several musical fronts. On the contrary, I have always tried to be very focused. What happened is that I recently changed my focus. I was working within one context and now find myself in a new one that is related to – and attempts to develop and go deeper into – aspects that I had previously worked on. In the first decade of 2000 I had mainly focused on what was called electroacoustic improvisation, music that happened in a context of quietness and precision of instrumental sound choices. Most importantly, this field was concerned with developing a non-narrative approach to musical discourse. Initially it was simply fascinating to research my instruments (bass clarinet and soprano saxophone) and what came out when I began to work in the context of quietness. The instruments revealed unknown behaviours, which was very refreshing.

One of the main ways of keeping this kind of work interesting, keeping it from becoming an »introduction« to something else, was to be able to keep the interest of the musical dis-



Lucio Capece performing in the Bern Minster, Switzerland, during Zoom In festival 2012. Photo by Rhodri Davies.

»THE CLASH BETWEEN DEFINED AND AMBIGUOUS ELEMENTS INTENDS TO SLIGHTLY CONFUSE WITH REGARDS TO WHAT IS STABLE AND WHAT IS NOT«

course without needing to create a momentum, which is usually achieved by raising the volume and the amount of gestures and musical material. Creating this steady interest opens up a non-narrative discourse that, philosophically and in terms of perception, makes you aware of what happens in each present sound and in the performance as a whole, rather than focusing on building a story. This kind of »still« playing allowed me to understand and become conscious of the non-narrative possibility in music, that is what could be defined as music »as time« instead of »in time,« as Keith Rowe says. Following that experience, I tried to work on the possibility of playing louder while keeping the structural idea of »stillness.«

Around 2008 the Berlin scene changed, and to play with the criteria of stillness (mainly playing quietly) somehow came to a creative fade-out. The new tendency was to put together the two main elements of improvised music, which until then had been seen as a dialectic process between the »proactive« approach and the »reduced« approach. I understood that the reductionist approach had arrived at a circular moment, meaning that it was imitating itself, but I did not find that my experience had to be determined by this new social scenario. I thus went on working on reductionism, mainly trying to develop my understanding of it and finding new ways to go further.

My main experience had to do with the question of what happens to your ears and your perception of a space when you play quieter than what the space might suggest you should, thinking of a sound in terms of diffusion and not projection (even if you play a bass clarinet), and considering each sound as the most important element of the whole performance. My intention was to keep working on those aspects, going beyond the importance of the presence of the musician or musical instrument. Fixing the attention on the space itself, even if I am performing on stage.

This change also has to do with being in a new and different personal situation. I have three small kids, which has made my life very different. My time became more tight. But mostly the arrival of my kids was a very intense life shock, very liberating, wild, and deep in many ways. I began to work mainly alone and with a few people that had the time and patience to work with a busy dad. I dropped the importance of any one instrument, and stopped trying to do something »interesting« or »creative« on stage, rather began trying to build contexts for shared experi-

ences. In that frame I developed the use of speakers hanging from balloons, and speakers as pendulums, the use of ultraviolet lights and spectral analysis, the examination of the acoustic characteristics of rooms and the way our ears, body, brain, and perception of space work.

Answering to the last part of your question, I longer can no perceive sound as a sole phenomenon. It is rather a living organism that occurs together with visual, spatial, and social elements. It is not my intention to become a multidisciplinary artist, but I cannot consider sound alone. This pushes me to investigate other aspects as well as the way sound behaves in everyday life, which includes tools and elements that are used or occur in the context of other socio-aesthetic approaches. I cannot enter all aesthetics and social approaches, but if I approach perceptive aspects not only in physical terms but also in social terms, I do not want to be scared of using any element that can be coherent with that research. The limit that I fix to this research is that it must have to do with my own life experience.

My motivation is indeed to propose a holistic experience in each performance. This means that if I use a light or a colour, I do not want it to decorate my presence on stage. For example I have used balloons coloured according to different colour theories, relating that to the physical and historical background of the spaces where I have performed. I have to be careful and try to be as clear, simple, and precise as I can. It is as if you hang a painting on a wall, look at it, and then find that the wall around the frame is as important as the painting. You then get rid of the frame and start working with the painting and wall as one thing, without adding more elements. The wider the focus, the fewer elements you choose, so as not to become confused or lost in its vastness.

JJ: In the context of this year's CTM Festival, you try to de-tune rather than tune spatial conditions. You present sound (a living organism as you say) to the audience, which spreads into the concrete space in a very specific way. What do you expect from the interaction between musician, space, and audience? What does it mean to you?

LC: There are some specific technical aspects of the space in question, such as using particular sine waves based on the frequencies of the room modes. The piece experiments with what happens when these frequencies, which are usually those that

sound engineers try to avoid, are played in motion within the space. Also the room's dimension will be used, profiting from the delay between amplification via PA and the wireless speakers. This somehow highlights distance in the room, making the space itself more noticeable, such that it stops simply being a place where music happens. These are a few of several technical aspects, not the piece itself.

The performance should be joyful and in a way, that's it. I cannot rely on the concept to give more body to the performance than what the performance should naturally have. In this sense I hope the performance will not focus on me, the tools I use, the way I use them, or my ideas, even if I'm conscious of my responsibility in being there. The pleasure should be about what happens to us as we experience the performance together. The particular difference with such a specific musical composition is the intention to relate with other aspects of ourselves that are not strictly happening in the music. In this sense, what I expect is that the audience will experience enjoyable music together with aspects of our collective presence, which usually are considered marginal when listening to music but which I consider as crucial as the music itself. This doesn't mean that the piece is a multidisciplinary work. Instead it is about the multiplicity of aspects of one thing, namely us.

The performance's appeal is based on fragility. Everything is somehow handmade, from building the propellers to the simplicity of the balloon, or the careful placement of the transmitters in each of the drum machine's outputs. The drum machine itself is a toy compared to the machines available today. This is not casual – I do not intend to shock or impress the audience, but rather to call on the impressive tools that inhabit us. I tend to find that if I do it with subtle power then those tools are not intimidated and come out as the main characters of the evening. These are not structural elements but rather part of the spirit of the living creature, which is something that is happening in and among us. I hope we can have a moment of sensitivity and closeness.

JJ: You are a cultural nomad who believes that the perception of music is not dependent on cultural boundaries, and is able to destroy all cultural boundaries and differences. These beliefs are shared by groups which came into being at a similar time and with similar sound concepts, but in different locations. For example, Japan's Onkyo, the philosophy of Erstwhile Records, or the international group Wandelweiser, Austrian reductionism, or American composers and artists such as Michael Pisaro, Jason Lescalleet, and Kevin Drumm. How do you see this nomadism of sound and ideas, global interest in silence, minimal sound expression, reclusion, pure sine waves, and the poetics of space?

LC: I respect and admire all of the musicians that you mention in your question. Some of them are friends with whom I have shared precious moments. I think that music with the characteristics that you describe has a lot to offer in terms of aesthetic

pleasure but also in terms of social organisation. Its characteristics offer relief and joy and ask for committed involvement with careful listening not only to the music itself, but also to the world we have in our hands. The focus is on societies as opposed to overinformed rapidly made commodities and ephemeral relationships. To a certain degree you can identify it as a scene. Certainly all these people know each other; their work shares points in common.

Nowadays it is not necessary to live in the same area in order to feel that a certain group of people are part of a collective force. At the same time, in social terms, it is difficult to determine what makes ideas and people belong to or be seen as outside of that collective force, to define who determines this division and how. I have wished and managed to find many of those positive characteristics in peoples' gestures or in events of different characteristics that are or are not part of any scene. I identify with those elements and consider them as gems to discover, enjoying and sharing with the only one scene that is life, everyday life and everyone, individually and as one thing. This is a crucial aspect that we can observe in these musics themselves and that we must consider especially relevant.

I try to relate with that joy and offer it back without counting on being part of more than that. This is beautiful enough for me.

Lučenec-Berlin, 27 December 2014

Lucio Capece is an Argentinean-born musician based in Berlin since 2004. His expressive tools include the soprano saxophone, bass clarinet, analogue electronics, the Shruti Box, and wireless speakers suspended from helium balloons. Tirelessly exploring the use of silence and stillness in music, Capece's work revolves around electroacoustic improvisations and both the collective and individual perception and experience of his installations and performances.

– luciocapece.blogspot.de

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– hermafrodit.tumblr.com



ALWAYS HERE FOR YOU: ON ASMR, AUTONOMOUS SENSORY MERIDIAN RESPONSE

BY CLAIRE TOLAN

ASMR, Autonomous Sensory Meridian Response, is a pleasant »tingling« sensation in the scalp and spine provoked by soft sounds such as whispering and hair brushing, produced in video role plays and circulated via YouTube, that mimic everyday situations of closeness. In her installation and radio art piece »ASMR: Always Here For You« artist Claire Tolan takes a critical look at the new mass phenomenon. Tolan is one of two artists commissioned this year to produce new artistic work for the CTM Radio Lab, with the Audio Drama / Sound Art department of Deutschlandradio Kultur as a main partner. Connecting ASMR practices with surveillance technology, Tolan investigates ASMR as a phenomenon that goes beyond an idiosyncratic method to sooth and relax body and mind, discussing ASMR as a community that seeks a remedy to the chronic psychic distress fuelled by the conditions of liquid modernity and the mass surveillance apparatus that sprawls through its core.

0

ASMR, Autonomous Sensory Meridian Response, is a pleasant »tingling« sensation in the scalp and spine provoked by soft sounds such as whispering, nail-tapping, and hair brushing.

ASMR is an ephemeral experience. Like an itch, it disappears as it is followed. But somehow in the midst of the tapping, the whispering, and the tingling, the body relaxes. ASMR is touching the listener with quietness, soothing the listener with touch.

1

The most popular platform for exploration and discovery of ASMR is YouTube. Millions of ASMR-triggering videos are posted, many with hundreds of thousands of views. The videos feature ASMRtists, the video creators, »performing« the sounds that trigger the tingling response, often in role plays.

The ASMRtist is speaking Korean, Spanish, Greek, French, Japanese, Russian, Hindi. The ASMRtist is a native English speaker blundering through a lesson on elementary German. The ASMRtist is peeling an orange, licking your ears, playing with water, pouring sugar, unwrapping a new hard drive. The ASMRtist is an abducting alien, an alpha-male, a personal trainer, a flight attendant. The ASMRtist is your hairdresser, your psychiatrist, your lover.

The ASMRtist is whispering in your ear that you are a wonderful person. It's hard sometimes, and we're all very exhausted. But you're doing the best you can. The ASMRtist tells you that she will always be here for you. Please, she says, try to relax. She is staring at you; her face is the frame. She leans back and slowly traces a circle on the tabletop with her long fingernails.

2

Though rumors of forthcoming academic work circulate in many ASMR forums, there have been no scientific studies published on its physiological effect. ASMR is extra-institutional. Its name is a pseudoscientific string of euphemism (where Meridian = orgasm) and wannabe lingo. The reason that it has not been studied – and perhaps, prior to the hyperglossic hypochondria of the Internet, that it had not found a common name – it is as difficult to pinpoint in the brain as it is to describe in the body. It is finicky. Not everyone »gets« it, and those who do have different triggers. Sometimes it happens, and sometimes it doesn't. It's not easily reproducible; it's idiosyncratic; it's *personal*.

In recent years, there have been many news articles and exposés about ASMR. Most track the narratives of those who experience ASMR, focusing on early memories of the response, especially interviewees' discoveries that they are not alone in

having the reaction. This community revelation always seems to underline the discovery »that I'm not a freak.«

The bond of a shared sensation is somehow deepened by the intimacy of the sounds. Though ASMR content is remarkably diverse, one unifying factor is that the sounds are meant to provoke an intimate experience. They are close sounds, ones that seem as though they are nearly at your ears, the nape of your neck, your shoulders. Sounds that can only be perceived with proximity to the source. Your skin brushed, your scalp massaged, your ears cleaned. Your desk vibrating with the tapping of fingernails.

3

The recording of ASMR sound is designed to maximise the illusion that the sounds are close to the listener. This is achieved with binaural recording, a technique in which microphones are positioned to mimic the placement of human ears. The resulting recording, when played through headphones, is a 360-degree uncanny soundscape, a spatialised splay of sounds layered on top of the ambient noise of the listener's environment.

Headphones allow the listener to perceive precise and quiet enveloping sounds. Headphones also sever the listener from her environment, creating a separate and solitary space in which the ASMR experience occurs. Any intrusion of the »real« room is read as noise.

4

ASMR videos are often considered to be fetish performances. Unwitting viewers are caught off guard by the closeness of the ASMRtist's face to the camera and fail to find her simulated intrusion into personal space pleasurable. This is weird, the discussion goes, so it must be someone else's fetish. This is weird, so someone must be getting off on this.

It's true that sometimes the videos are deliberately erotic. Here, the camera is zoomed in on her chest, his crotch. Here the title »[ASMR]妹の悪戯 Little sister licks your ears [Eng-Sub]« plays atop an illustration of a pale pink tongue licking a finger – no video needed.

More often, though, viewers perceive sexual content where the ASMRtist did not intend it. Whispering, one viewer thinks, draws attention to the mouth. Affirmation and care-taking mimic mothering. It's easy to make these connections if you want to make them. To the excited observer, the quiet movements of the ASMRtist seem to be building like the eroticism of a horror film. Fingernails trace slowly over bare skin. But there is no

climax. The experience ends in a clean grid of YouTube related video recommendations. Must any staged act of intimacy by a stranger qualify as erotic?

More than anything, the videos transmit something that is like presence. The content is a vehicle for experience.

I'm leaning towards you on a sofa. Fingers brushing brocade. Feet scraping wooden floor. I'm sorry you find it uncomfortable to have my face so close to yours. Let me pull back a bit until you feel more at ease.

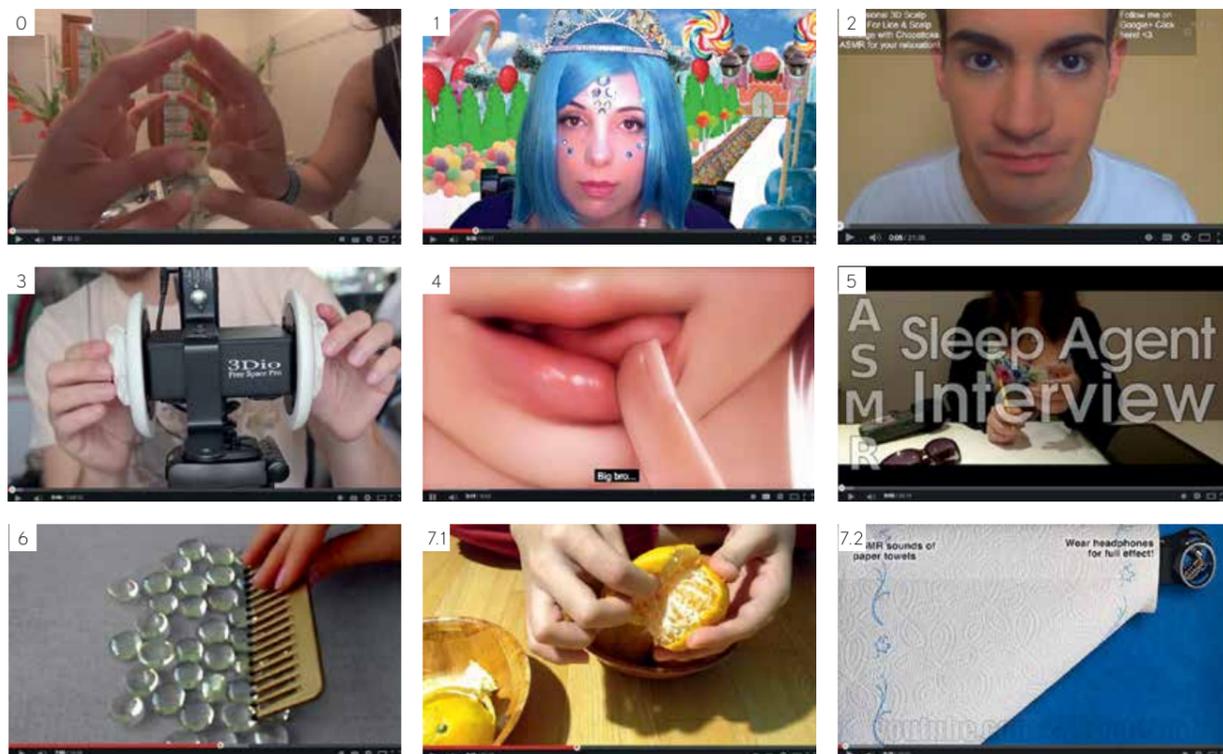
5

ASMR videos are meant not only to trigger the tingling response, but also to soothe, to relax, to affirm. The videos are created as treatments for an array of chronic contemporary ills – anxiety, depression, insomnia. This is established both by video titles (»ASMR – Affirmation – Soft whispering, Confidence-boosting« or »Guided Meditation – ASMR – Bad Day«) and in the comments left by viewers, some of whom state that certain videos act as nightly sleep aids.

If it is true that an individual is rarely mentally ill, but instead a representative of a larger societal sickness, we can see these afflictions as the products of advanced capitalism, or, per Zygmunt Bauman, liquid modernity. Bauman has written extensively about the surveillance apparatus within liquid modernity, which preemptively accuses in order to avoid what might happen. Thus, we stand always already accused, in violation, apprehended. Mass surveillance watches all with the supposition that there is a reason to watch (i.e. coming guilt). This double bind – simultaneously being told you are doing fine and condemned as having done wrong – provokes the kind of anxiety sutured by ASMR.

The millions of mundane bits of everyday life funneled through the surveillance apparatus recall the banality of ASMR content. Like an analyst, you watch small moments and movements. Can you spot a pattern before the tingling makes you catatonic? Does the analyst, wearing headphones at her desk, ever feel an unsettling sensation in her scalp, a slow relaxation?

In ASMR videos, you are asked to feel at ease in a place where you will never belong. You are greeted by a stranger who is at the same time welcoming thousands of other viewers. You – and the others – participate in a simulated intimacy that is aware of – and effective because of – its pretense. You are a subject interpellated by the ASMRtist. But you are also a voyeur, a distant stranger gazing into the ASMRtist's home. You wrestle between the roles; you play the game.



- 0 DianaDew ASMR »♥ Gentle hands and tapping nails on mirror ♥ whispered ASMR ♥«, videostill, taken from YouTube.
- 1 Heather Feather »Candy Queen ASMR Role Play For Relaxation (ASMR) (3D Binaural)«, videostill, taken from YouTube.
- 2 Tony Bomboni (ASMRer) »Professional 3D Scalp Check For Lice & Scalp Massage with Chopsticks (ASMR)«, videostill, taken from YouTube.
- 3 JustAWhisperingGuy »ASMR Binaural Ear Touching for Sleep and Relaxation«, videostill, taken from YouTube.
- 4 Kingmanekin »[ASMR]妹の悪戯 Little sister licks your ears [Eng-Sub]«, videostill, taken from YouTube.
- 5 Lady Bug ASMR »ASMR Soft spoken interview for a position with the National Sleep Association«, videostill, taken from YouTube.
- 6 MimiTingles »ASMR Glass stones/marbles sounds – No whisper«, videostill, taken from YouTube.
- 7.1 Nana Kim »Korean Asmr: How to peel an orange(한국어 ASMR : 귤 까는 방법)«, videostill, taken from YouTube.
- 7.2 Stereoasmr »ASMR paper towels«, videostill, taken from YouTube.

In the first half of this role play, you watch me, and I pretend like I don't know you're watching. In the second half, we pretend that I'm you and you're me. You're watching me, but I don't know you're watching.

6

How do you situate the fringe Internet therapy of ASMR in a larger healing tradition? Beyond its obvious counterparts in the realm of alternative medicine, I often wonder about the relationship between the remote, anonymous touching of ASMR and the attention delivered by a medical professional. A physical therapist, a masseuse, a nurse. So much of what medical professionals give goes beyond targeted treatment. A friend writes me about bathing an elderly patient at the hospital. »Don't be afraid to really scratch my scalp,« the patient said. »Scratch it like it was your own.«

Does it matter whose hands – and does it matter who the touch is intended for – if the touch finds the right spot? Does it matter who is telling you to forget about your awful day and relax, if in the end you find sleep?

In some articles, psychologists worry that people are going to begin relying on the videos for momentary distraction instead of seeking »real« solutions to their problems. This reading seems far too easy, especially when the »real« solutions are usually pills, and health insurance often does not cover psychological treatment (if insurance is available at all). It's too easy when ASMR videos aren't destructive in the way that a lot of other coping mechanisms (alcohol, drugs) are.

I'm not saying that ASMR provides some sort of panacea containing the secrets to surviving (and transcending!) advanced capitalism. But can something be found lying latent in these long, slow, soft landscapes of sounds, made to touch and to soothe, that might be a lever for some sort of transformation? Could the videos contribute to new fantasies? New imaginaries? New critiques? If a stranger can touch you with her voice, what then? And after watching someone move marbles on a granite table for an hour, what can be found in the pit of that boredom?

The hot tub jets are bubbling. What's that? Yeah, of course. I'll always be here. I'm happy to wait. Come on in whenever you're ready. The water's warm.

7

In ASMR videos, the quiet everyday is elevated into the position of spectacle. A friend watches an ASMR video of someone peeling an orange. Days later, she writes to say that she was peeling an orange and experienced ASMR, something that had never happened to her before. The sounds, once they are identified as triggers, are connected in mem-

ory with the reaction. They are relearned as extraordinary. ASMR is a response to quietness, which, in turn, allows us to process quietness in a new way. Prompted by Rosi Braidotti's wonderful writing on the post-human, I have begun framing my thoughts with a passage from *Middlemarch* by George Eliot:

»That element of tragedy which lies in the very fact of frequency, has not yet wrought itself into the coarse emotion of mankind; and perhaps our frames could hardly bear much of it. If we had a keen vision and feeling of all ordinary human life, it would be like hearing the grass grow and the squirrel's heart beat, and we should die of that roar which lies on the other side of silence. As it is, the quickest of us walk about well wadded with stupidity.«

ASMR is a leak from the other side of silence. It prompts the relearning of sound as sensation and the soft as spectacle. What happens as it infiltrates our »wadding?« If we follow the rivulets draining down through the packaging, how do they run and to what low ground? How are they subsumed by our known sensorium?

I'm removing the plastic wrap from a new paper towel roll. I pause for a moment.

I'm recording this at my friend's house, which is right next to the interstate. I'm in the bathroom at the center of the house, but you can hear the traffic. I hope that doesn't bother you. I'm so glad you're taking some time for yourself right now. I hope you're able to relax. You really, really deserve it.

I finish removing the plastic. I tear off a section of paper towel. I hold it up to the camera. Your screen becomes white. The embossed diamond patterns on the towel appear, in two dimensions on your screen, a light grey.

For several minutes I hold the towel in front of the camera, stroking it. And then: do you want me to tear the paper today or should I crumple it up? It's your choice. I'll do whatever you want. Click here to watch me tear the paper. Click here to watch me crumple it. Click here to restart.

Claire Tolan studied Literature at the University of Chicago, and Archival Science and Human-Computer Interaction at the University of Michigan. She has worked in nonprofit publishing ventures and archives across the US, including the Newberry Library, the Poetry Foundation, Copper Canyon Press, and the Yosemite National Park Archives. Tolan moved to Berlin in 2013 to work as a web developer with the Tactical Technology Collective, an organisation that helps political activists develop strategies for data manipulation and management. In 2014, Tolan created »You're Worth It,« a Berlin Community Radio show that explores the sounds and culture of ASMR. The show has led to collaborations with several artists, including Holly Herndon and d3signbur3au.

– berlincommunityradio.com/youre-worth-it

YOU DON'T KNOW ME, BUT I KNOW YOU

AUTO-TUNE, ASMR, AND TECHNOLOGY'S INTERSECTION WITH
THE VOICE AS GENDERED EMBODIMENT
BY ANNIE GÅRLID

In this article, Annie Gårlid examines two case studies in a dynamic intersection between electronics, the human voice, and the expression of gender, and observes the tendency of technology to either neutralize or reinforce gender poles via its representation of the voice. In the case of the waxing subculture named after and devoted to triggering ASMR (Autonomous Sensory Meridian Response), technology (in the form of the Internet) delivers the sounds of a gendered voice with a specific affective intention in mind. In many cases within this culture, the reinforcement of a gender binary in audio and videos seems integral to the intended therapeutic impact. In the form of the vocal processing software Auto-Tune, technology flaunts its power to annul gender norms both through its ability to augment the range of a single, sexed human's voice but also in its capacity to de-humanize the human input into a standardized, universal, robotic, and »alien« sound. How does this neutralisation affect the somatic impact of the sound it mediates?

The rampant spread of technology in the last decades has seen conflicting theory reflecting on the potential for embodiment within a post-human framework. In her master's thesis, »Embodiment in Electronic Music Performance,« Holly Herndon references Baudrillard, who suggests the following about the impact of technology on culture and bodies: »The human body, our body, seems superfluous in its proper expanse, in the complexity and the multiplicity of its organs, of its tissue and functions, because today everything is concentrated in the brains and the genetic code, which alone sum up the operational definition of being.« An opposing argument also cited by Herndon, though, highlights the unflinching truth of our animal presence on this planet, even in the face of technology's pervasive, consuming, and heady network. She cites Allison Muri's question, »what kind of logic has given rise to this equation of technology with disembodied consciousness and superfluous bodies?« and the tracing of »the impact of human excrement on the globe as a means of establishing the unavoidable reality that we all still inhabit bodies.« In accepting the philosophical and practical weight of the body in the face of technology, an important next step is to assess the nature of the interwoven, interactive relationship between the two.

Herndon's own work reckons with the tenet voiced by cognitive scientist Anthony Chemero that »the tool isn't separate

from you. It's part of you« and depends on an understanding of Mark Hansen's »integrated mind/body« rather than a »mind/body duality.« Technology's role in thawing this duality mirrors its ability to loosen the societal grasp of the man/machine binary as well as the male/female one. In her »Cyborg Manifesto,« Donna Haraway famously argues for the vision of the cyborg as a »condensed image of both imagination and material reality,« concurrently and iridescently physical and non-physical, human and machine, post-gendered. Haraway writes, »cyborgs might consider more seriously the partial, fluid, sometimes aspect of sex and sexual embodiment. Gender might not be global embodiment after all, even if it has profound historical breadth and depth.« In her essay, »Cyberfeminism and its Discontents,« Annie Goh echoes the warning of other cyberfeminist writers that the complete subsuming of the body into technology will witness »the ultimate dream of disembodiment« as the triumph of the patriarchal order.« As important as it is for cyberfeminism to see the dissolution of boundaries, it may be just as essential for it to hold onto strands of proof of physicality.

In the science fiction reality that Haraway paints as our world, we can creatively identify endless symbols of the continuum between mind and body, man and machine, endless proof of the coupling of physicality and ether. What kinds of things weave or have control over this unifying strand? A suggestion that

Herndon makes and that I also support is that the human voice contains a unique potential to highlight and express this interplay, and serves as a kind of moulding clay for an exploration of the dynamic between body and mind, human and machine. In playing this role, it then also bears the mark either of a neutralized, post-gendered identity or of a reinforced, caricatured symbol of traditional gender. Herndon cites David Toop, who describes the voice as:

»the sonic instrument with which we begin as humans – beginning as an intricate folding of inner and outer, ear, lungs, throat, skull, and mouth, abstract thought and physical projection, biology and consciousness, breath and listening and which develops as the articulation of impulsion, feeling, word, speech, paralinguistic noise, even musicality, resonating in time, mind and the air of open space. Throughout the 20th century, the voice was a prime site for the redefinition of the body in relation to the machine age, particularly during a rapidly developing era of disembodied technologies such as wireless telegraphy, radio, telephone, cinema, television, the tape recorder, electronic amplification and the microphone. Temporal shift, spatial displacement and the physical absence of the vocalizing agent, both implicit and explicit in such communicative extensions of the body, suggest a disintegration of the image of the body as a symbol of unity.«

The voice replaces the body as a symbol of unity, and physical touch is replaced with sonic touch. Holly Herndon recalls »long pubescent telephone marathons, pressing the receiver as close to my cheek as possible, as if to become closer to the person on the other end.«

»WHAT'S MORE HUMAN THAN WANTING TO BE SOMETHING ELSE ALTOGETHER?«

The most explicit demonstration of our effort to use technology to achieve a disembodied intimacy is ASMR. In ASMR audio and video, the distance or »non-standard intimacy« (as Lauren Berlant and Michael Warner call it in their article, »Sex in Public«) manifests itself not only in the absence of physical presence but also in the fact that the nurturing is being done by strangers. As a teenager on the telephone, Herndon's conversation partner was disembodied but known. In ASMR, devotees across the globe produce audio and video as a kind of playful public service, offering their highly characterized intimacy with anyone and everyone. With a focus on sound as tingle-triggering and immediately gratifying despite distance, ASMR contributions exist somewhere between pornography, therapy, and music. ASMR, while often focused on sounds such as nails scratching on a couch or hands painstakingly leafing through books or crinkling a bag of Doritos, are just as often solely composed of a single soothing voice whispering encouraging nothings into the computer microphone. The scenarios are often modeled on scenarios we might have encountered as children that relaxed us: visits to the doctor or the hairdress-

er; calm, supportive lessons in painting. Many videos draw on clinical models or scenarios that offer a lathering of personal attention. Because the tingling or »braingasm« sensation is often triggered by situations or sounds that recall cozy memories, the audio and video is largely fueled by an amplified, cartoonish nostalgia.

One of the subjects of amplification is the gender binary. Mostly created by long-eyelashed, sugary-voiced women, many scenarios in ASMR videos depict a specifically feminized and classically feminine tenderness, simulate activities such as make-up application and hair brushing, and display pastel-pink nails and flowing hair. There has been a significant contribution to the community by men as well (many ASMR websites provide different categories for male and female ASMRtists), but these additions are often reactionary and symmetrically inflated in their portrayal of gender. The male contributor who goes by Iggy M. Manley writes the following disclaimer under one of his YouTube videos: »Tired of all those ASMR videos by women trying to put makeup on your face or showing you what's in their purses? Fuck that! Manley ASMR is a manly ASMR series for men, hosted by a man's man ... From boots to video games and tools, you'll find nothing but manly ASMR here. None of that female crap!« The physical sensation ASMRtists seek to provoke seems dependent on a portrayal of an exaggeratedly gendered voice and on activities reflecting a gender binary somehow associated with childhood or magnified through a distance from it. The ASMR community, however, might do itself a service by offering that the voice does not have to be the linchpin of a polarized portrayal of gender to be therapeutic.

The CTM 2015 theme, »Un Tune,« is concerned with exploring the emotive, noncognitive, and unmediated impact that sound has on bodies and psyches. The theme is framed as an investigation of all sound's capacity to affect in this way, but the play, exploration, and experimentation is theoretically to take place in the context of watching how technology enables, interacts with, complements, or complicates this power. The festival's description of the theme states »artistic experimentation with the affective and somatic effects of sounds and frequencies opens up possibilities of tuning and de-tuning the composite that interconnects body, matter, energy and (musical) machines – and of exploring our perception.« In this statement, the concept of »tuning« describes technology's interaction with and adjustment of sound more than the literal definition of »tuning« as pitch refinement in music; »tuning« might refer just as well to processing or amplification, for example, as to the adjustment of pitch. However, there is an instance in which certain technology employs and exemplifies both the metaphorical and the literal definition of the word »tune«: in tuning literally, as pitch-shifting, the corrective-turned-creative software Auto-Tune also »tunes« both the somatic potential of the voice and, in turn, the implications of identity and gender that go hand in hand with this voice.

Auto-Tune was originally developed by Andy Hildebrand at Antares Audio to correct and smooth over singers' faulty intonation in the recording studio. The program is able to nudge any note sung even slightly too low or high into the nearest semitone slot. In doing so, the original vocal source's true sound quality is cloned; the program does its best to imitate the voice

as it was recorded, say, a couple microtones flat, but the sound that replaces the erroneous singing is of course a new synthesis of the heard and machine-integral. The widespread use of Auto-Tune in the pop music industry has created a stir and raised questions not only about ethics and integrity but also about the extent of widely embraced stars' talent. At its most subtle, Auto-Tune goes unnoticed and leaves in its wake no more than a mirage-like plastic sheen over the vocals on a track like Britney Spears' »Alien« and has a stabilizing effect only evident when we hear what the original recording sounded like without the corrective software (when we're lucky enough to get wind of a leak).

Its distortive potential as a sound effect was discovered at some point in the context of its cosmetic application in the recording studio. The more aggressive the setting and the more slurred the sung phrase, the more Auto-Tune jolts in its role from corrective and complementary (its use was compared by Hildebrand, its creator, to the application of makeup) to metamorphic. Over the last two decades it has reared its head as an effect akin to the classic vocoder and has shared an equivalently involved love affair with pop music. It was Cher's single »Believe« in 1998 that patented the use of the software as vocal disguise. As Sasha Frere-Jones points out in his article about Auto-Tune for the *New Yorker*, Cher's decisions about which phrases of the song to shroud with the software foreshadow decades of the program's use as an indicator of either sub- or super-humanness: her voice is at its least recognizable and most digitised when she sings, » ... and I can't break through,« and completely her own when she asks, »do you believe in life after love?« »You can only feel so bad for a robot,« Frere-Jones writes.

Similar to its vocoder relative, Auto-Tune breaches the territory of the »alien« or »other« in its use as an effect and represents an ideal of futurism, post-humanism, and outer space. It is no accident that the post-humanistic implications are consequences of the manipulation of a natural voice – the voice, the original symbol of embodiment and the allying glue between mind and body, becomes clad in an ultra-flexible metal sheath and hardly recognizes itself. The program as a distorter removes the individuality of the voice, digitises and standardises it. Many songs that employ Auto-Tune as an effect make use of its potential to robotise, but often the resulting robot character retains bastions of gender. T-Pain, Lil' Wayne, and Kanye West wouldn't let the tool interfere with the macho stance of their songs, but they've all used it to symbolise an exploration of the outer limits of human expression and feeling and the condition of a lost or broken soul. Rolling Stone critic Jody Rosen writes, »it's a painterly device for enhancing vocal expressiveness and upping the pathos.« West, for example, chose to use Auto-Tune for the first time on the single »Heartless,« which reacts to the loss of his mother. Rosen notes, »Kanye's digitised vocals are the sound of a man so stupefied by grief, he's become less than human.« Rihanna also uses it in her song »Disturbia« to emphasise the portrayal of a sub-human suffering, and Lil Wayne used it in albums *Tha Carter II* and *Tha Carter III* to give voice to his loneliness and depression as compromised, metamorphosed conditions.

At its most flexible, though, Auto-Tune holds the key to gender-neutralisation and androgyny, if the artist chooses that as his/her agenda. The software not only unitises melismas into a broken half-step scale but also extends vocal range limitlessly; when sung through »the gerbil« (as the program is termed in the recording industry), the female voice, for example, can sound three octaves below its natural limit and the male voice three octaves above. A boundless continuum of pitch and therefore gender implication is at the disposal of any singer. In his song, »To Care (Like You),« James Blake frames a dialogue between at least one male and one female and uses a pitch shifter to produce all voices from his own. He poses therefore not as a single, omni-voiced cyborg but as several opposing gendered figures. In his performance, »The Voice is False,« Swedish artist and academic Siri Landgren speaks and sings through Auto-Tune, simultaneously describing and demonstrating the androgyny the software is capable of representing. He compares the reception of the Auto-Tuned voice to that of the falsetto (stemming from »false«) voice; »it does not give a correct or easily interpreted image of the body which constitutes its source. Is this a man, a woman? An adult or a child?... The voice is false like the hybrid is false.«

How far away is singing with a voice signaling a gender binary from the therapy that the ASMR community hopes to achieve? And how far away is singing with the gender-neutralised Auto-Tuned voice? Is the processed voice one step further from inciting a »braingasm,« or just as close? Auto-Tuned voices affect us emotionally and intellectually, rev us up mood-wise and symbolise the perfect cyborg philosophically, but can they give us tingles? What effect does the dissolution of gender boundaries in vocal representation have on the somatic power of this sonic contact?

In »O Superman (for Massenet),« Laurie Anderson champions the vocoder, embodies androgyny, breaks hearts and induces chills, proving the potential that the synthesised voice has for soul and touch. She realises that, as Dave Tompkins writes in his book *How to Wreck a Nice Beach: The Vocoder from World War II to Hip-Hop*, »what's more human than wanting to be something else altogether?« The song depicts a conversation between a narrator and an unknown voice. After at first imitating the narrator's mother, it says, »You don't know me, but I know you.« And then, »So hold me, Mom, in your long arms ... in your automatic arms, your electronic arms, in your arms.«

Annie Gärld is a classically-trained viola player, singer, writer, and translator devoted to the performance of and reflection upon experimental, electronic, and early music. She hails from east coast USA but has found a home for the past five years in Cologne and Berlin. This year she will participate in an opera by composer Martin Hiendl that explores the use of prepared vocals and Auto-Tune and will perform at CTM 2015 in collaboration with Claire Tolan in the Radio Lab project focused on ASMR. She currently works in communications at CTM.

»IN TUNING LITERALLY, AS PITCH-SHIFTING, THE CORRECTIVE-TURNED-CREATIVE SOFTWARE AUTO-TUNE ALSO »TUNES« BOTH THE SOMATIC POTENTIAL OF THE VOICE AND, IN TURN, THE IMPLICATIONS OF IDENTITY AND GENDER THAT GO HAND IN HAND WITH THIS VOICE.«

A MEMOIR OF DISINTEGRATION

A PROJECT BY SOUNDWALK COLLECTIVE WITH RECORDINGS
FROM NEW YORK CITY, 2004–2014, FEATURING NAN GOLDIN,
SAMUEL ROHRER, LIVE VISUALS BY TINA FRANK, AND
EXCERPTS FROM THE WRITINGS OF DAVID WOJNAROWICZ

Rebelliously struggling against conformity and materialism, multidisciplinary artist, writer, and activist David Wojnarowicz was one of the most potent voices of his generation. Born in New Jersey in 1954, Wojnarowicz lived an extremely difficult childhood brought on by an abusive family life and a sense of isolation resulting from his emerging awareness of his own homosexuality. He dropped out of high school and was living on the streets by the age of sixteen, eventually settling in New York's East Village in 1978. As a participant in the first wave of the East Village art scene he befriended and collaborated with many notable creators, including photographer Nan Goldin. By the late 1970s Wojnarowicz's work had begun to take on a focus of »making and preserving an authentic version of history that would contest state-supported forms of ›history.« (Wojnarowicz)

Wojnarowicz's perspective from the fringe opposed the idea of a nicely tuned, and consequently repressive society, instead promoting the uncontrollable noise of radical diversity. After he was diagnosed with AIDS in the 1980s, his art took on a more sharply political edge and addressed topics such as medical research and funding, and morality and censorship in the arts. He died of an AIDS-related illness in New York in 1992, at age 37.

CTM 2015's Opening Concert on 24 January pays homage to Wojnarowicz's powerful outsider stance with a world premiere of the latest work by Soundwalk Collective with American photographer Nan Goldin, percussionist Samuel Rohrer, and video artist Tina Frank. »A Memoir Of Disintegration« is a sound composition based on David Wojnarowicz's homonymous and provocative correspondence, which explores and captures existence at the margin of society in 1980s underground New York City. An intense and dark journey through street life, drugs, art, nature, politics, friendship, and acceptance, the live performance features Nan Goldin interpreting the most expressive excerpts of Wojnarowicz's writings. Soundwalk Collective will perform a live musical score thick with jarring physicality juxtaposed to a sound memento of field recordings from New York City from over the past two decades. With live visuals from Tina Frank and Samuel Rohrer on drums.

Opposite we have printed a selection of excerpts from David Wojnarowicz's book, *Close To The Knives: A Memoir Of Disintegration* (New York: Vintage Books, 1991), that will be interpreted by Nan Goldin in the performance.



Film still from »Last Night I Took A Man,« 1989. Performance and Dialogue: David Wojnarowicz. Camera and Direction: Marion Scemama. Super-8 on digital video, colour, sound, 4:33 min. Courtesy of Marion Scemama, the Estate of David Wojnarowicz, and P.P.O.W. Gallery, New York.

TAPE RECORDING

DAVID: What was it about ›dark‹ things that attracted people back then?

SYLVIA: Well, if you're afraid, then you dive in and you want to get inside it so it's just not a separate thing. My nature, the nature of how I see things is I can barely look at some of those things.

DAVID: I find myself at times sliding towards depression in confronting some materials – my attraction for a moment might be more of: why are they attracted to it - I mean; medical deformities, nazi regalia, videotapes of that politician upstate shooting himself in the mouth ...

SYLVIA: Exactly ... it's once more removed. I think we're observing that – because all these people had specific things; it's: why did all these people have this specific attractions. The attractions themselves are arbitrary.

DAVID: Well, what was the attraction to drugs?

SYLVIA: I'll tell you – talk about a generation. Whatever it is that's there when you are in the twenties – I could put things down to age; before you're deciding, you just do whatever is there. I don't ever remember saying, »I need drugs. I'm going to do drugs.« It wasn't really a decision, they were just there. If they weren't there, it would have been something else. I think

drugs themselves are their own issue. I didn't do them to explore or anything. I did them for fun. I did coke to get to work – it was just there. I didn't really think about why I did it. It was only in my marriage that drugs became an issue, when I did heroin with my husband because life was so miserable and I would go down with him and I definitely did it to try, and hide, which never worked for me anyway. I can never fake myself out. Eventually I was doing them just so I wouldn't be sick. You don't use drugs - they always end up using you. I did them for the buzz, to take the edge off, to go through all the motions and go through it with a smile. To get through the everydayness, the pointlessness, the two dimensionality of everyday life, which is sort of ironic because all we do is look underneath it all the time - I don't exist on the two-dimensional sphere; I see way beyond it. So why are we taking a drug to help us to do that? I think we do the drug because we do see so much more, but we want, on some level to keep things two-dimensional. It's a dichotomy; you can't stand things because they are so superficial so you take drugs to stop seeing further.

DAVID: Yeah ... You have a headache, you take aspirin. you have a *normal life*, you take drugs. Is that what it boils down to?

SYLVIA: Well, like I said, I took them to just get rid of the mundane aspect of everything I am seeing, but I've never seen anything mundane in anything, so I must be taking it to eliminate the depth, to get through the everyday and see it that way. ...
– Wojnarowicz, p. 195–197.



Film still from «Where Evil Dwells», Tommy Turner and David Wojnarowicz, 1985, featuring Joe Coleman, Devil Doodie, Baby Gregor, Richard Klemann, Lung Leg, Jack Nantz, Rockets Redglare, Tommy Turner, Charlotte Webb, Scott Werner, David Wojnarowicz. Music by AC/DC, J.G. Thirlwell and Wiseblood. Super-8 on digital video, black and white, sound, 31:10 min. Courtesy of Tommy Turner, the Estate of David Wojnarowicz, and P.P.O.W. Gallery, New York.

TAPE RECORDING

JOE: ... I know a lot more about what I was feeling back then than I did at the time. Someone asked me recently about the movies I made, and I said, «My only intent is to destroy sex.» They said, «What do you mean?» It occurred to me that whatever we are denied or whatever we do not get in the way that we want, we want to smash it. I could never understand romance and shit - it never seemed to work out like the picture books or the movie, so, naturally, I wanted to destroy it. It is just that in your twenties you don't realize that you don't necessarily want that which you cannot have - it just seems that way. It is states of *life* that end up being attractive; things where other people seem to be content. Like - wish I had a wife. And a house. And a car. But my desire for that makes me hate it. Such as, seeing a couple kissing; I hate it. It makes me sick. Just because I don't have it. ...

– Wojnarowicz, p. 198f.

TAPE RECORDING

... I fixed myself a shot and went out for a walk and got about seven blocks when I started puking. I had to stop about five times on each block to spew out water between parked autos. My eyes were tearing up and the city streets expanded and contracted 'til they became tunnel-like and brilliant with the sunlight bouncing off the edges. I went home and laid down on the mattress. It was like a cave, all dark and cool, while outside the brick wall was glowing with the sunlight and the whispering shadows of a breeze-tossed tree. I saw series of transparent images appear in the air half way between my face and the windows, almost like a slide projector carousel clicking away. First a series of physics equations and then a donald duck no more than five inches tall looking at me with his quacky smile. I leaned over the side of the bed and threw up into the wastepaper can I'd placed there. Then I felt warm, like my bones were resting in a bathtub full of almost hot water. Then I went unconscious. Later, in a restaurant with Peter Hujar, having a cup of coffee, I showed him my arm. It felt foreign to me, like an arm out of a monster movie that belonged to somebody else. I felt like a long distance scientist showing another scientist a weird ani-

mal relic. I was almost completely disassociated from myself. Peter looked at me with an odd look in his eyes and said, «Don't ever come over my house again. I won't be friends with you if you're going to do that.» I burst into tears. «I just feel so terrible about living,» I said. «I feel too self-conscious about living and it's driving me crazy.» He reached over and rubbed my arm. I went home later and never did it again. It took a number of months of the grainy black pall to lift from the surfaces and activities around me. It never lifted completely, but I realized that would never happen unless the entire society stopped dead in its tracks and the directions it was speeding it got erased. ...

– Wojnarowicz, p. 205f.

Nan Goldin was born in Washington, D.C., and began photographing at the age of fifteen. She received a BFA from the School of the Museum of Fine Arts, Boston, in 1977. In 1978 she moved to New York, where she continued to document her «extended family.» These photographs, along with those taken in London, Berlin, and Provincetown, Massachusetts, became the subject of her slide shows and first book, *The Ballad of Sexual Dependency*. In 1985 her work was included in the Whitney Museum of American Art's biennial. A decade later, in 1996, a major retrospective of her work opened at the Whitney, and toured to museums throughout Europe. In 2001 a second retrospective of Goldin's work, *Le Feu Follet*, was held at the Centre Pompidou, Paris, and toured internationally as *The Devil's Playground*. Nan Goldin's work has been published extensively, has been exhibited at significant institutions worldwide, and is held in the collections of major museums, including the Museum of Modern Art and the Whitney, both in New York, the Art Institute of Chicago, Fondation Cartier pour l'Art Contemporain, Paris, and Musée des Beaux-Arts des Nantes. A recipient of numerous prestigious awards, Goldin lives and works in Berlin, Paris, and New York.

– matthewmarks.com

Soundwalk Collective is an international art collective based both in New York City and Berlin. Since 2000, they have been sonic nomads, exploring and documenting places from the desolation of the Rub' al Khali to the coasts of the Black Sea. Created by Stephan Crasneanski, and comprised of Simone Merli and Kamran Sadeghi, the Collective's recent installations and performances have been shown internationally at numerous spaces such as the Centre Georges Pompidou (Paris), Crossing The Line Festival (New York City), Berghain and Volksbühne (Berlin). Although sound and music are the primary forces in their live setting, video projection specific to each piece also contributes to their unique performance environments.

– soundwalkcollective.com

Tina Frank is a graphic designer, media artist, and professor of visual communication at the University of Arts and Industrial Design in Linz. Frank designed the cover artwork for key Mego releases including albums by the likes of Christian Fennesz, members of Pan Sonic, Jim O'Rourke, and Florian Hecker, defining the prestigious label's visual aesthetic. She started working with video and multimedia in the mid-1990s.

– tinafrank.net

Percussionist Samuel Rohrer is considered among the influential improvisational musicians of his generation and has toured worldwide, performing at major Festivals like Punkt Festival, the NorthSea Festival Rotterdam, Huddersfield Contemporary Music Festival, and the Montréal International Jazz Festival. He has performed and recorded with numerous musicians including Sidsel Endresen, Skuli Sverrisson, Eivind Aarset, Max Loderbauer, Vincent Courtois, and Jan Bang.

– samuelrohrer.com

»WHITE BROTHERS WITH NO SOUL« – UNTUNING THE HISTORIOGRAPHY OF BERLIN TECHNO

INTERVIEW WITH ALEXANDER G. WEHELIYE
BY ANNIE GOH

As Berlin's burgeoning electronic music scene becomes ever-more a point of international focus, with numerous books and articles being written on its clubs, music, and parties every year, the politics of these structures often get neglected. Within the festival theme »Un Tune,« the dissonances as well as consonances of these stories are being explored: both inclusion and exclusion play out in systems of sonic affect such as the dancefloor. Building on his extensive work on race, music, technology, and critical theory, CTM Discourse programme co-curator Annie Goh interviews Professor Alexander G. Weheliye on the racial politics of Berlin techno, and how its story is being narrated.



Scene at Tresor 1992, video still from the TV feature »Techno City Berlin – Ein Wochenende in der Berliner Technoszene« by Joachim Haupt, SFB, 1992/1993, taken from YouTube.

This is an abridged version of an interview which took place via Skype in December 2014.

Annie Goh: Thanks for taking the time for this interview Alex. In the recent spate of books such as Felix Denk and Sven von Thülen's *Klang der Familie*, the story of the birth of Berlin techno is told following the fall of the wall in 1989. This narrative tells of the jubilation of a reunified Germany, the masses of empty spaces, huge social change and upheaval, and the heady parties and clubs which emerged out of this. Denk and von Thülen narrate this as an »oral history,« with interviews with various protagonists – DJs, promoters, club owners, party goers, and the like. The narrative is quite typical of the way this period is usually described – both as a story of German reunification and of the birth of Berlin techno, an upheaval of previous hierarchies, and radical openness within the arena of the dancefloor. How does this version of history compare to your own version?

Alexander G. Weheliye: First of all, I wouldn't say it is just my version of history. It is also the version that others like myself – non-white Germans – have experienced. I see narrativisation of the reunification and the birth of Berlin techno and the Berlin republic as part of a much longer tradition of thinking about Germany and German-ness. Throughout the post-WWII period, Germany had to reconstruct itself in many different ways and imagine itself as untainted by its Nazi past. One way it did that was by performing a kind of multi-cultural openness, however, only as long as that multiculturalism was located *outside* of Germany. That is one part of the larger discursive structure.

»FOR ME, IT ISN'T AN EITHER-OR QUESTION, BUT A MATTER OF HIGHLIGHTING THAT THERE EXISTED OTHER FORMS OF CLUBBING AND MUSICAL CULTURES, WHICH ARE ONCE AGAIN BEING WRITTEN OUT OF HISTORY.«

The reunification is typically imagined in mainstream histories as a seamless blending together of East and West, which leaves out the virulent racism and violence during this period, especially against non-white bodies. Although called xenophobia rather than racism, it didn't matter whether they were German

or not, so long as they were not white. Thus, it seems very limited to imagine the history of Berlin techno only as this coming together of what I refer to in my talks as »the white brothers with no soul,« particularly since the Pogroms are still largely omitted¹⁾ from the German and international collective memory of the reunification period.

The other thing for me, at a basic experiential level that really made me take notice, was that these histories are not only recounting the emergence of Berlin techno *per se*, but are also constructing a very particular story about musical cultures in West Berlin during the 1980s before the advent of techno. What generally gets left out are the not very elaborate but nevertheless very present Black music cultures in GI discos and other clubs that played Black music in West Berlin before the fall of the wall. In these narratives, there is definitely a move to disassociate Berlin techno from Black musical influences. I'm not simply saying »this is the appropriation of Black music« but instead asking »what different histories of Berlin techno and of Germany would we get if we actually opened this up a little bit and looked at other dance music cultures and other forms of clubbing?« For me, it isn't an either-or question, but a matter of highlighting that there existed other forms of clubbing and musical cultures, which are once again being written out of history. This ensures that Berlin techno, Germany, and German-ness are continually being imagined as white.

AG: In your talks, you showed a clip of Tanith, from the documentary *We Call It Techno* (2009), describing how techno parties differed from other discos, such as the GI clubs in West Berlin, saying "We were white brothers with no soul." Can you explain why you found that comment, which was said in a fairly flippant and throwaway style, so significant?

AGW: Tanith has semi-publicly argued that this comment has been taken out of context. To me, though flippant and perhaps ironic, it also encapsulates a lot of the problems I see in the historiography and celebration of Berlin techno. Tanith says that there was house music – which was much more clearly Black because it was funky and had more soulful vocals – but that he and other white Berlin DJs wanted to go a harder route – one that didn't have anything to do with Blackness and Black music. It is clear that this is what happened in the course of a few years, despite the fact that what would later become techno was initially brought to West Berlin within the context of clubs and radio shows that played Black music. Originally there wasn't this separation between the »white brothers with no soul« and the »Black brothers and sisters with soul.« My argument is that in order for Berlin techno to be imagined as something specific to Berlin and to Germany, it had to separate itself from Blackness, whether imagined or real. German public and academic discourse denies the existence of race. The moment that people of colour bring up the question of race, they are put in the position of being too sensitive or of being racist themselves. So what I found significant about that clip is that Tanith's statement really puts the racial dimension of Berlin techno out there in a way that is not common in Germany.

AG: Could you describe, on the level of sounds, the whiteness or becoming-white of Berlin techno – which key characteristics of the musics and sounds of electronic dance music do you identify with this, and where do you place these within a larger context? What was being accepted into the sonic language of techno and what was being excluded?

AGW: I think the interesting thing is that it didn't happen so much sonically in the beginning. There weren't that many techno productions from Berlin and a lot sounded much more housey, pop-like, and soulful than one would think. It was only around 1992-ish that these Berlin productions that had a lot less swing, a lot less funk, emerged. Since then it was much more about a steady, metronomic beat and a very stereotypically Teutonic or Germanic sound. Take the playlist by DJ Rok⁽²⁾ featuring those tracks that were popular at Tresor in the early 1990s, which also appears in the *Klang der Familie* book. Many of the included tracks are by Black producers from Detroit and Chicago while several feature vocals, underscoring how fleeting the line between house and techno was then.

»THE HISTORIOGRAPHY OF BERLIN TECHNO REALLY BENEFITS FROM PRECISELY THE IDEA OF GERMANY AS A NEWLY LOOSENED-UP BASTION OF TEUTONIC WHITENESS.«

The early-1990s veneration of Underground Resistance – who are, in contrast to earlier Detroit techno producers, explicitly political, putting themselves in a lineage of Black freedom struggles – in Berlin was based on their politicization of primarily instrumental music, and it also fed into an independent punk-rock ethos that was prevalent in the city at the time. The reception of UR in Berlin also suggested that Blackness and Black music were okay, so long as they didn't involve Black Germans; it took place under the auspices that Blackness was foreign to Germany. Nevertheless, of course UR was hugely important.

There was a tendency early on in Berlin, as well as in Cologne⁽³⁾ and other places, to say techno might have been »invented« in

Detroit but »we've made it our own and no longer need to look to other places.« In the early 1990s, some involved in Berlin techno even used a different spelling, »Tekkno,« to distinguish themselves from Detroit. The other thing that happened is that the more melodic, feminine, queer, and Black sounds associated with techno and electronic dance music went into the genre of »Eurodance,« which is very clearly separated from Berlin techno, because the latter was an underground, independent hardcore phenomenon.

In my talks I found it important to link these two genres because they are so similar – perhaps not culturally alike, as Eurodance numbers by Snap! or Real McCoy were produced for the pop charts and not necessarily for clubs, but nevertheless they used a lot of the same production techniques as the early techno productions. Originally there was much more overlap between techno, house, and Eurodance. It was important to me to bring these two strands together, as in Eurodance you see a lot of Black German performers – it was acceptable and even necessary to the success of that genre and not in Berlin techno, which distanced itself from Blackness. For instance, white Berlin producer Olaf »O-Jay« Jeglitza hired Black Germans Patricia Peterson and Shampro to front his group MC Sar & the Real McCoy, even though he himself had performed the male vocal parts on the records. That is, he perceived the performers' visual Blackness transcending the »inauthenticity« associated with his white German body performing in a Black musical genre.

I've experienced a lot of pushback from people on the continuum between Eurodance and techno during the early 1990s, because it essentially collapses the social capital associated with the distinction between the mainstream (Eurodance / Kirmes techno) and underground (Berlin techno). Ultimately, this distinction is based on the gendered, racialised, classed, and sexualised hierarchies of taste that allow the »white brothers with no soul« to claim they are the only keepers of the true techno grail.

AG: In Denk and von Thülen's book, the Detroit connection plays a big role. The story of Detroit techno DJs and producers making hard, industrial-sounding militant techno, acts such as Underground Resistance, but not finding the right audience until Dimitri Hegemann brought them over to Tresor is a familiar one to most techno fans. When reading this story, it is easy to get the impression of a kind of well-functioning multiculturalism – Black DJs playing to largely white audiences. How do you read this part of Berlin's techno history, which clearly acknowledges Black techno artists and their influence?

AGW: Yes, of course, because Underground Resistance were so popular, they absolve white Germans of having to think

about the racial politics of Berlin techno. UR were the exception to the rule and their reception in Berlin proceeded through a type of alternative exoticism. Like Boney M. in the 1970s, who articulated this »Fernweh,« a German-produced and German-sounding group that embodied a desire for something exotic and far away. UR were the underground version of that, they were from Detroit, and even though they performed Black music, politically they were conceiving themselves in a similar way to people in Berlin.

The underground ethos has not been a central part of Black popular music, which is usually very aspirational, so not about occupying dingy basements, but more typically embodying »the good life« in the form of financial success or designer clothes. UR did not take this path, which aided their popularity in Berlin. Because UR were so political, because they were unabashedly Black politically but *not* from Germany, they were an easy exception to the rule. Their sounds were much harder and much more confrontational with track titles like »Sonic Destroyer« or the *Riot EP*. These have very particular meanings within Black freedom struggles, but that isn't necessarily how they were read and received in Berlin.

AG: How much was the success of Underground Resistance in Berlin due to the absence of vocals or sparing use of vocals?

AGW: Yes, the UR records that were successful in Berlin were not vocal recordings. The UR discography, however, is almost evenly split between the tracky, industrial recordings on the one hand, and vocal, often Gospel-inspired house tracks on the other. For UR those things existed side by side and that wasn't a problem, but that wasn't necessarily what the folks in Berlin took their inspiration from. In Berlin, the releases which were popular (the *Riot EP*, *Sonic Destroyer*, *Panic*, and so on) emphasised the former at the expense of the latter, which were perceived as both »Blacker« and more »feminine.«

AG: In several techno documentaries, Berlin techno is portrayed as a very open and heterogeneous scene, in which all are welcome and usual prejudices are swept aside. Techno is often presented as politically »progressive.« But the statistics brought out by female:pressure in 2013, show the clear gender bias of the techno scene, which can also be extended to a race bias, as you have shown in your work. In your opinion, how does techno manage to keep up this profile of »progressiveness« in the face of such blatant exclusion?

AGW: One of the reasons it is imperative for me to raise these points is their relevance to the way Germany conceives itself. The discursive and institutional ground, the conditions of possibility, are already there for the mirage of openness. At least

partially, this is due to Germany having a self-understanding as being very liberal, which it is to a certain extent. On the other hand, there is a deep-seated unwillingness to actually look at itself as a not-exclusively white nation, which is not only a problem of a few neo-Nazis or the PEGIDA (»Patriotic Europeans Against the Islamization of the West«) folks but also affects the white German liberal and leftist spheres. In fact, it seems much more pernicious in these contexts because of the systematic denial of everyday institutional racism.

The historiography of Berlin techno really benefits precisely from the idea of Germany as a newly loosened-up bastion of Teutonic whiteness. I've described this elsewhere as how Germany has had to constantly create a kind of *Unschuld for itself*, an innocence, distancing itself from responsibility for anything that is not related to the Jewish community, which is now conveniently not very present within Germany. And of course the Holocaust did not only affect Jewish community. These are tendencies which arch through German history and historiography, and which to a degree are due to the fact that large-scale German colonialism »only« lasted from the Berlin Conference to the end of World War I. As a result, colonialism and the longstanding presence of people of colour in Germany can be continually disavowed, because not doing so would mean »un tuning« the white harmonic scaffolding of German collective memory.

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– sites.google.com/site/alexweheliye

⁽¹⁾ In Hoyerswerda, in the Autumn of 1991, a mob of Neo-Nazis and other citizens attacked asylum seekers and former GDR contract workers from Vietnam and Mozambique over several days. Other violent racist attacks took place in Rostock, Mölln, and Solingen between 1990 and 1993 resulting in many fatalities. See for example www.pogrom91.tumblr.com (last accessed January 2015).

⁽²⁾ www.youtube.com/watch?list=PLVb7eV3YZiUNvSmLijEzdUmyKJAkjEgo&v=JwuE32ToGdQ (last accessed January 2015)

⁽³⁾ Bunz, M., »Der deutsche Wald in der Disko«, *Telepolis*, online 6. April 1999; www.heise.de/tp/artikel/3/3358/1.html (last accessed January 2015).

T TALK

LORENZO SENNI IN CONVERSATION WITH MARC SCHWEGLER
AND REMO BITZI OF ZWEIKOMMASIEBEN MAGAZIN



Photo by Piotr Niepsuj.

Lorenzo Senni's mini-album, *Superimpositions* (Boomkat Editions, 2014) proved a furious sequel to his *Quantum Jelly* LP, released in 2012 on Editions Mego. His material is based on structures of T*¹⁾, which Senni approaches with empathy, gravity, and remarkable precision. He then propels the musical dynamics into a state of limbo, playing there with potential shifts in balance and mood. At CTM 2015, Senni presents the project, *AAT (Advanced Abstract Trance)*, a further step in his reconnaissance venture, enhanced by visual and tactile impressions.

*1) Lorenzo likes to use »T« instead of trance, because he finds the latter term too redundant.

zweikommasieben: Let's start off with the main focus of your recent work: build-ups, as they are applied in T tracks. What is it that makes you investigate this very specific phenomenon in such a focused, isolated, sober manner – like a scientist in a laboratory?

Lorenzo Senni: I think of the build-up as the most important part of a T track. I don't really like drum beats in T songs – they are almost all the same because they account for the genre. The build-up is the part where the artist can express himself in a more »creative« way. It still needs to be functional and bring you back to the kick. However, I like build-ups because there are rules and at the same time many ways how to approach and play with them ... That's why I think build-ups are a dense part, full of musical information. The idea was to extend those parts to a five-, seven-, or ten-minute piece of music.

Now build-ups have a dramatic progression from zero to 100 percent – which is too much for what I want to do. Therefore, my progressions are within a range of 65 to 80 percent. I also wanted to work in a more »dry« territory, and make a kind of real track from the structures at hand. Creating tracks with just one simple idea and forcing build-ups into a typical non-build-up situation is a good starting point to make a non-uptlifting track that implicitly preserves its emotional tension and drama.

ZKS: How far can you push your investigations?

LS: Dunno, it's all about attempts. *AAT* could be a good example of something that is related to my previous work but tries to go in a different direction. It's a multi-channel piece that's about breakdowns, falling basses, re-starts, and sparse sonic activities after static moments. This piece of work ought to initiate a dialogue, through my approach of course, between abstract computer-generated music, cold canyons of static, and short, epic, full-on supersawed moments.

ZKS: Going in a different direction with *AAT*, are you trying to get a different reaction from the audience? What would that be?

LS: Yes, a state I'd call »circumscribed euphoria.«

ZKS: What will you do once you complete your studies on T – is there any other subject you can imagine researching in a similar way?

LS: I already started, working on pointillistic T, flat T.

ZKS: You stick to T. Could you imagine working with themes outside of this realm?

LS: For now I'm happy with what I'm working on and I'm always trying to push my research a bit further. In all honesty, I'm open to brutal changes and shifts if my interests go in a different direction. I don't want to be stuck in something, but I'd love to have »my sound« and apply, when required.

My last record, *Superimpositions*, is different from the previous *Quantum Jelly*. With *Superimpositions* I tried to apply the same method to a wider range of musical possibilities, and I think it worked pretty well. Especially in some tracks where you can see where they come from, yet a thin crucial switch transforms them into something else – to break the rigid statement of my first work.

I was also working on the new *How To Dress Well* record, for which I made two main synths and chords; one of them for the first single, »Words I Don't Remember«. That collaboration would be a good example of how my approach to music can also fit into other musical fields.

ZKS: Are you applying your approach to music in other disciplines as well?

LS: I worked a lot with lasers. I presented a laser-based work named »Oracle« at Sonar's 20th anniversary at the MACBA Hall. I also showed that work in Belo Horizonte, Brazil during a CTM showcase at Eletronika Festival last year. My approach to lasers is the same as to music: There are very small modulations over a long period of time, no classic amusement park

»I DON'T CARE IF I'M ATTRACTED TO T BECAUSE WHEN I TURN ON THE RADIO I HEAR T SYNTHS EVERYWHERE, OR BECAUSE WHEN I WAS 14 ALL MY FRIENDS WERE GABBERS AND I WENT TO MANY HARD T PARTIES, OR BECAUSE I JUST FIND IT COULD BE CHALLENGING TO DEAL WITH SOME OF THE MAIN CHARACTERISTIC OF THIS MUSIC ... IT'S TOO DIFFICULT TO TELL WHY I AM INTERESTED.«

laser-style. I use a very limited range of repeated movements and very few colours ... The idea is to detect structures and archetypes behind the use of this beautiful coherent light in a club and rave context.

ZKS: Back to music. How do you compose your tracks – are you writing the loops from scratch or is there some kind of sampling involved?

LS: I am writing the midi-score while the synths are playing, I adjust sound parameters and notes at the same time. No hierarchy. They constantly influence each other and when I'm happy with something I try to go deep and focus on a specific area. There is no sampling involved, only synths – digital or analogue, I love both. No prejudices – I'm interested in the sound. In terms of gear, *Quantum Jelly* is only about Roland's JP-8000; for *Superimpositions* I also used the JP-8080, TB-303, JD-990, and my beloved Dimension SDD-320 Chorus (hardware).

ZKS: What is the reason that you don't sample at all? From an outside perspective sampling would be an obvious technique of choice for someone investigating a specific field of music in such a manner ...

LS: My background is in computer music and for many years I've been working with software like Max/MSP and SuperCollider. My main interest at that time was to create my own sounds through digital synthesis. I've never been fascinated by sampling, maybe because I felt I needed more »control.« When I started working with T build-ups I decided to go straight to the question of: »What's the T synthesizer?« The answer was ob-

vious: »It's Roland's JP-8000!« This was the first synthesizer featuring the legendary Supersaw waveform. I think using this synth is way better than sampling. On top, it's an even more accurate reference in my eyes, since the sound created with the JP-8000 is undoubtedly recognisable.

The closest thing to sampling that I do is to collect build-ups. That was and still is a very important field of work to me. I have a huge archive of sound files that last between 30 seconds and two to three minutes. Collecting those files was vital for the development of my work. Anyway, I rarely edit and place them together; the only exception is when I do mixes. I use them to explain my creative process. For *AAT* I will be including samples, but I'm not going to process them in any way; I need them because I think they are already perfect as they are. Build-ups are a different matter – I need to be crafting them from the first stage.

ZKS: We observe a growing interest in more »vulgar« or marginalised domains of dance / club music by various contemporary artists – M.E.S.H. or you are examples. We think that, let's say ten years ago, genres like T were marginalised institutions coming from more arty or academic domains. Would you agree?

LS: I think the answer to this question is not as obvious as it seems to be. It really depends on the point of view. I understand what you mean, but for example T was not marginalised at all for thousands of people; T's popularity is growing, transforming, creating subgenres and »the sound« is more and more present in pop songs. Coldplay just released a track last year with a trancy anthem at the end, so I think that pop influences



Photo by Piotr Niepsuj.

art and vice versa. Probably it's just a global feedback with no beginning and no end.

Furthermore, I don't care if I'm attracted to T because when I turn on the radio I hear T synths everywhere, or because when I was 14 all my friends were gabbers and I went to many hard T parties, or because I just find it could be challenging to deal with some of the main characteristic of this music ... It's too difficult to tell why I am interested. Lisa Blanning put it nicely however, when she shared her article for *The Fader* about me on Facebook. She wrote: »How I learned to quit worrying and embrace trance, or me writing about Lorenzo Senni.«

»A STATE I'D CALL
CIRCUMSCRIBED
EUPHORIA«

ZKS: To finish off, let's talk about other artists. Where is home in terms of music?

LS: Even if I'm still working on my build-ups, I discover great stuff and I jump into it. To me it doesn't matter if it's old or new ... The artists that made me think of electronic music in a different way are definitely all Mego-affiliated – Florian Hecker, Pita, Russell Haswell, EVOL, or *Farmers Manual* for example, and obviously the more »academic« computer music pioneers are dear to me as well ... Later-on, Plastikman has become an obsession. In the most respectful way I would say that one can

recognise my obsession with Plastikman in the approach to some of my tracks.

With *Presto!?*, my own label, I try to get involved with artists I admire – my heroes. While putting out their work I hope to become a part of it. I'd call this a positive creative cannibalism.

Lorenzo Senni is an electronic music experimentalist currently based in Milan. His productions, largely dealing in deconstructed trance, have been released on albums for Boomkat Editions and the venerable Editions Mego label. He is the founder of *Presto!?*, which has served since 2008 as a platform for both complex computer music and high-concept pop from artists like EVOL, Palmistry, and Florian Hecker. Senni also operates under the alias Stargate and as One Circle with fellow Italian artists Vaghe Stelle and A:RA.
– prestorecords.com

zweikommasieben is a magazine based in Switzerland dedicated to documenting contemporary music and club culture. The collective also organises concerts, club nights, raves, and other events in various cities throughout Europe.
– zweikommasieben.ch

AMBIVALENT SOUNDS AND SYSTEMS

NIK NOWAK IN CONVERSATION WITH HEIMO LATTNER



Figure 1: »Booster 2.13,« 2013, mobile sound system suitable for pushing, wood, steel, GRP, audio equipment, tire, 110 x 300 x 95 cm.
Courtesy of Hubertus von Hohenlohe.

Heimo Lattner speaks with fellow Berlin-based artist Nik Nowak about the interplay between function and sculptural aesthetics in his sound objects, the influence of military and capitalist apparatuses on creative activity, and the use of sound to effect the transformation and perception of space. Nowak returns to CTM with his installation, »Booster 2.13,« following the exhibition of his mobile sound system »Panzer« at the festival in 2012.

Heimo Lattner: Your work draws our »gaze« to the conceptual, poetic, and socio-political connotations of sound. Your sound objects, as you call them, initially appear to be functional machinery. Yet thanks to their formal aesthetic qualities they also assert themselves as sculptures. This apparent ambivalence is something you very consciously play up.

Nik Nowak: That's true. In formal terms, these artworks reference sci-fi as well as urban or military phenomena while their recurrent insect or animal-like aspect is suggestive at times of mimicry or certain poses. Thus »Booster 2.13« (Figure 1) could be read as a praying mantis, a scorpion, or a pit bull. The form of this piece didn't ensue from practical considerations however. On the contrary, had it been devised as a purely functional object, it would have needed fat tires at the back and small ones at the front, like a tractor. So, it's clearly the result of play with forms and associations...

HL: Evidently, the martial appearance of these objects triggers particular associations in viewers' minds?

NN: Such as?

HL: For me, they immediately conjure things warlike and menacing.

NN: Well, we kids who grew up in the Rhine-Main area of Germany in the 1980s were surrounded by a war machine (in the form of US military bases) and yet simultaneously led to believe that we were living in times of peace, and that peace was paramount. It was obvious to us, however, that this was a weird notion of peace and hence a pretty schizophrenic state of affairs. In the meantime, we've all become caught up in de-localised, permanent warfare. Globalisation, military drone deployment, and the logic of systems that no longer need declare physical war zones in order to pursue and protect their interests confronting us once again with the simultaneity of war and peace. And my perception of this dual reality is expressed through the form my objects take. My work often pinpoints objects and

power relations that are ubiquitous in our everyday lives, manifest for example in the use of drones or certain vehicle designs. The sound objects also definitely serve as a kind of personal armour or tank, as a means for me to keep the threat of permanent siege or takeover at bay. It's not that I'm a weapons fanatic; rather, the objects take *ad absurdum* trends that I find myself confronted with daily. You might say I create my own arsenal: a range of machines able to counter the invasiveness of the capitalist machine.

»I CREATE MY OWN
ARSENAL: A RANGE OF
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SIVENESS OF THE
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HL: In both »Panzer« (Figure 2, 5, 6) and »Booster 2.13,« acoustic considerations had a direct influence on form. The volumes, which in their sum define the form, are derived from the need to have the loudspeakers project a specific, ideal sound. While one can shape form as much as one likes, artistically speaking, certain volumes evidently had to be retained here for acoustic purposes.

NN: Actually, if the goal had been to generate optimal sound, I'd have had to ditch all formal sculptural criteria and take practical decisions instead. But I endeavour to charge a sound system's potential by using a form that lends it further associative and thematic dimensions. That in itself is an absurd undertaking, because everything is then concentrated in the object and hence extends from a single point. As a rule, a PA system is set up around the space in which it is to be heard, and directed at

»I ENDEAVOUR TO CHARGE A
SOUND SYSTEM'S POTENTIAL BY USING A FORM
THAT LENDS IT FURTHER ASSOCIATIVE AND
THEMATIC DIMENSIONS.«

the listeners. In my work that situation is reversed: the sound system projects outwards into the surrounding space from the position of a single subject.

HL: You investigate acoustic terrains as mirrors of socio-political phenomena and respond to them artistically. What is the ratio here between aesthetic and analytical considerations?

NN: I use sound systems to try to approximate acoustic phenomena that are linked to their environment. For example, the use of sound in acoustic warfare is linked in my work with the idea of civilian uses of sound systems, i.e., I set up counterpoints: the latter is associated with personal identity and notions of freedom; the former is primarily concerned with military goals, such as occupation and crowd control. These dual poles converge in a single object. This is contradictory, in functional terms, but it certainly works as sculpture.

HL: Sound may give rise to poetic moments or equally serve as a weapon, since it has an impact on anyone within hearing distance even before one has a chance to reflect on or control it. The same can be said of your musical work, which ranges from electronic music to experiments with subliminal frequencies. But interaction with listeners, respectively viewers, likewise plays a role in your work.

NN: We now operate within the confines of a permanent feedback loop – we're constantly both receiving and transmitting information. Aren't social networks just some kind of echo space in which we can present a profile and receive feedback accordingly? Today, thanks to smartphones, we're generally able to isolate ourselves from social interaction in public space by constantly carrying our own personally configured environment around with us. The work »Echo« (Figure 3) is a reference to this, in a sense. Two UGVs (unmanned ground vehicles) use sensors to register the presence of exhibition visitors and then enclose them within an extremely directive echo.

Whilst an echo usually unfolds in open space, in this case it is directional and therefore audible only for the exhibition visitors currently targeted by the echo drone. Here, feedback from one's own presence becomes a dilemma and constitutes the surrounding space anew.

HL: In addition to technically complex installations such as »Echo,« you make »Mobile Boosters« that are strongly reminiscent of redneck culture, such as pimped-up motors, boom cars, and unnecessarily large gardening tools.

NN: (Laughs) The »Boosters« are another example of the mimicry strategy – but my intention is not to seize or to occupy space. What I do, actually, is create means with which to keep exactly those sorts of practices at bay. I'm primarily interested in sound, respectively in using sound to effect the transformation of space and perceptions of space. In my work I explore different possible methods of doing so.

Berlin, 26 December 2014

Born in Mainz and based in Berlin, [Nik Nowak](#) creates sculptural objects that serve as sound systems and vehicles for engaging the public in electronic music. He is a graduate of the University of Fine Arts in Berlin, and has exhibited his work throughout Germany and Europe.
– [niknowak.de](#)

[Heimo Lattner](#) is a Berlin-based visual and sound artist who explores locality and social identity through films, radio plays, installations, and texts. He studied at the Akademie der Bildenden Künste, Vienna and the Whitney Program in New York. His work has been widely exhibited throughout Europe and the US.

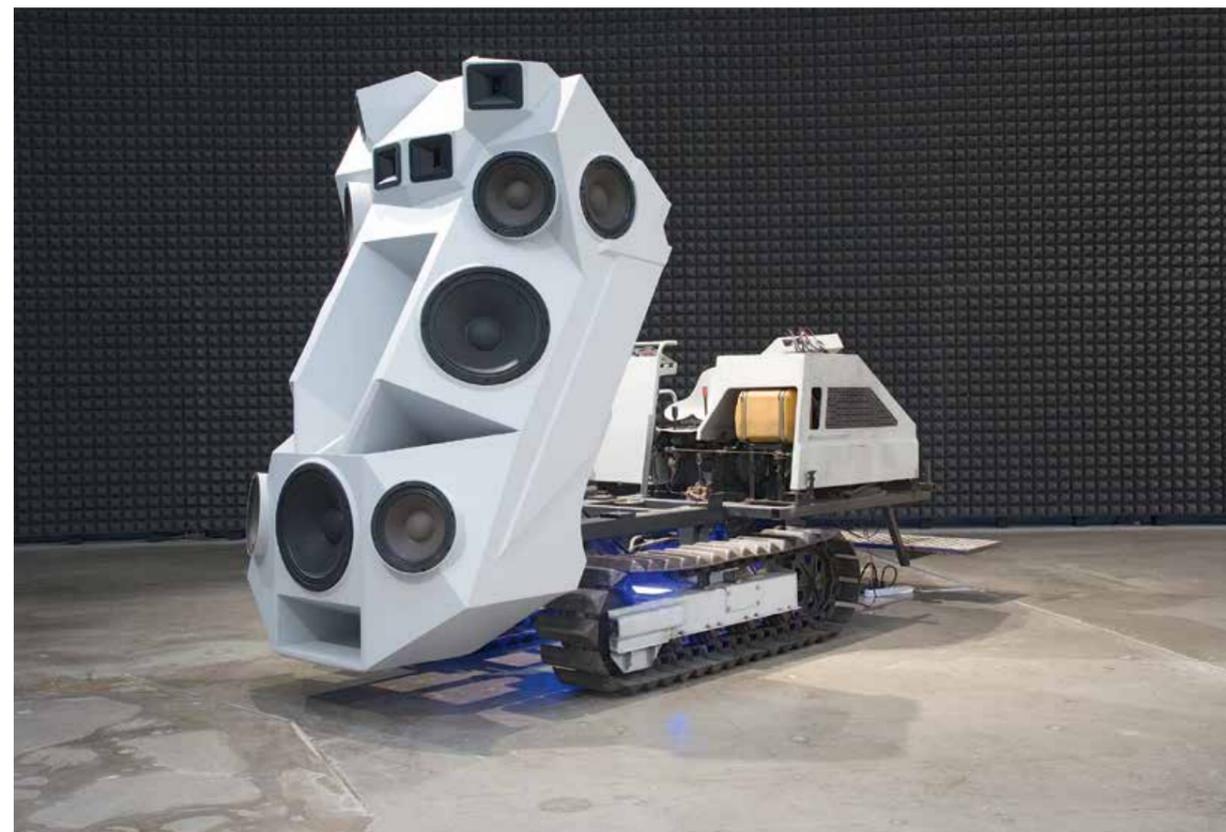


Figure 2: »Panzer,« 2011, sound object, mini dumper, wood, GRP, lacquer, loudspeaker chassis, 4000-watt amplifier, audio equipment, max. 250 x 140 x 350 cm.



Figure 3: »Echo,« 2014, sound installation with anechoic chamber, loudspeaker tower, autonomous ground drones, and reproduction of the painting »Echo« by Alexandre Cabane. Installation view Berlinische Galerie, 2014.



Figure 4: «Echo», 2014, sound installation with anechoic chamber, loudspeaker tower, autonomous ground drones, and reproduction of the painting «Echo» by Alexandre Cabane. Installation view at Berlinische Galerie, 2014.

Figure 5 & 6: «Take Over» Panzer (tank) parade with Chicago footwork DJs Spinn & Rashad, Berlin, 2012. Photos Felix Markl.

ROUGH MUZAK

AFFECT & THE WEAPONISED USE OF CLASSICAL MUSIC

BY MARIE THOMPSON

Classical music has frequently been celebrated as a pinnacle of human achievement: it is said to have the capacity to enlighten, to move, and – as proponents of »the Mozart effect« suggest – enhance listeners' mental ability. However, over the past 25 years in Britain, Canada, and the United States, classical music has come to function not just as art or entertainment but as an audio-affective deterrent. It is used as a means of dispelling »loiterers,« »yobs,« »hoodies,« and »thugs« by making a particular social space – be it a shopping mall, bus station, fast food outlet, or car park – undesirable to occupy. Marie Thompson looks at how the music of the (social, cultural, economic) elite has become a sonic weapon deployed against the young, the poor, and the bored.



Photos by Remco Schuurbijs & Marius Rehmert.

Classical music was first used as a deterrent by 7-Eleven convenience stores in British Columbia, Canada. In 1985, branch managers began piping classical music into the stores' parking lots in order to prevent teenagers from congregating there. The guiding premise behind the piped music was fairly simple: loitering teenagers and other social »undesirables« do not like and are thus irritated by classical music, so broadcasting classical music will prevent teenagers from hanging around and causing trouble. In the US and Canada, classical music has been used as a deterrent on public transport systems (the city train station in Portland, Oregon broadcasts classical music and opera, for example, allegedly resulting in a reduction of service calls for help); but also in library foyers (the Central Library in London, Ontario has used Vivaldi to deter smokers and other loiterers); and outside shops. Fast food outlets in poor, urban areas have used classical music to »improve« their clientele. In a 1997 article titled »McFugue, no cheese: Beethoven and the Dead European Males clean up notorious street corner,« Thomas Korosec reports how a McDonald's in downtown Dallas used classical music in combination with improved street-lighting and litter prevention to improve the outlet's image. According to Korosec, the »very urban« Macdonald's had previously been nicknamed »Crackdonald's« due to »the myriad species of thug life that hung out there.« However, the broadcasting of baroque, classical, and early romantic music both inside the restaurant and outside onto the surrounding sidewalks and nearby plaza reportedly led to an »astounding« drop in police calls and arrests. According to James Oby, the former manager of the outlet, the classical music created a different atmosphere that discouraged criminal behaviour: »you don't walk or act the same way when there's classical music on ... It's just the way it makes you feel.« Consequently, Korosec reports that »On a recent afternoon, there was no hangin', no chillin', no dealin' – just office workers, commuters, school kids, and conventioners queuing up for their Macburgers and fries.«¹⁾

The »Crackdonald's« classical music performed two conflicting functions. On the one hand, the presence of an »undesirable« (i.e. non-white and poor) clientele was minimised, subsequently attracting more »desirable« customers. On the other, the classical music was perceived to improve customers' behaviour – the music encouraged them to »walk« and »act« differently. In other words, it is implied that the music both drives out (and keeps out) those deemed »undesirable,« and transforms »undesirable« loiterers into well-behaved consumers.

Classical music has been deployed in similar spaces in the UK – namely public transport stations, shopping malls, and outside shops. The northeast of England was the first place in the UK to deploy classical music as a weapon: in 1997, the Tyne and Wear metro began broadcasting music by the English composer Frederick Delius at some of their stations to target what was de-

scribed as »low level antisocial behaviour« such as smoking and swearing. Speaking in 2005, Mike Palmer, the general director of the Tyne and Wear passenger transport executive (Nexus) stated that the aim of the music was »to provide a background of music that people who we are aiming at don't actually like and so they move away.«²⁾ In an article for the BBC, Melissa Jackson described the music as creating a »win-win« situation: the (alleged) troublemakers are driven out, while passengers find the music helps pass the time whilst waiting for their next metro.³⁾

THE AUDIO-AFFECTIVE CRIME DETERRENT: TO SOOTHE OR REMOVE?

The use of classical music as a deterrent is a particular manifestation of what is known as »crime prevention through environmental design« (CPTED). Other crime prevention through environmental design strategies include improvements in lighting; promoting and inhibiting pedestrian movement through certain spaces; the removal of overgrowth and shrubbery in and around car parks, buildings, and wasteland; bars and armrests on benches in order to prevent people from lying down or skateboarding on them, as well as the recent controversial »anti-homeless« spikes that are intended to prevent rough sleeping. Yet while the weaponised use of classical music is often described as a crime deterrent, what is meant by crime in this context is often ambiguous.⁴⁾ The use of classical music as a deterrent, and discourses surrounding this practice, divide social subjects into two types: the respectable and desirable commuter/consumer, whose presence is to be permitted and encouraged, and the unpermitted, undesirable, antisocial, and (potentially) dangerous loiterer, whose presence is to be discouraged and abated. This latter – the primary target of weaponised classical music – is typically referred to via »dog-whistle« pejorative terms for working-class youth, including »yobs,« »thugs,« »hooligans,« and »hoodies.« The employment of these terms supports the (implicit or explicit) construal of target bodies as criminals, or – more accurately – *potential* criminals.

In dispersing those judged to be potential troublemakers, the weaponised use of classical music might be more accurately described as alleviating *fear* of crime. Indeed, it is telling that Nexus spokesman Tom Yeoman claims that even if the loiterers congregating at Tyne and Wear metro stations »didn't have a violent agenda, they looked like they might have.«⁵⁾ The groups congregating in stations were judged to be menacing by other passengers and so inhibiting their presence, via music, was understood to make the »right« clientele feel more secure.

Though its advocates claim remarkable effects, it is unclear precisely how classical music inhibits criminal and/or antisocial behaviour. It has been suggested that classical music has a soothing effect on potential troublemakers. A BBC News report on the use of music in the Newcastle Metro and London Underground, for instance, describes the music as having »a calming influence.«⁽⁶⁾ References to classical music's capacity to deter crime due to its calming influence connect to a long-standing ideology that classical music can exalt, improve, and »civilise« individuals. Yet such explanations do not account for classical music's power to disperse »undesirable« groups. Indeed, it is classical music's capacity to prevent crime through the mobilisation of »negative« affects – its capacity to irritate, annoy, alienate, and consequently displace – that is more frequently referenced in accounts of its use as a deterrent.

When used as a weapon, classical music becomes an audio-affective deterrent insofar as it involves the use of sound to modulate feeling in order to inhibit a body from occupying or acting in a space. This »body« might be thought of as the individual body-as-subject, but it might also be thought of as a composite crowd or »group-body,« since weaponised classical music is primarily intended to dispel »gangs« of loiterers rather than (or as well as) particular individuals. Weaponised classical music aims to diminish the affective power of the »gang« or group by weakening or destroying its composition – it aims to break up the collectivised body and remove it from a space so that it no longer generates a threatening, menacing atmosphere. In doing so, classical music is understood to improve the »vibe« of a space: it inhibits »bad vibes« – feelings of fear and dread – and purportedly contributes to a sense of safety and security.

ROUGH MUZAK

The idea that music can be a mechanism of social, psychological, and affective control has a long history. Plato, for example, proposed that certain musical styles, modes, and instruments are beneficial or detrimental to a harmonious and well-ordered society. Simple music was understood to encourage temperance, grace, and virtue, whilst music derived from complex rhythms and inappropriate modes was a threat to an orderly society – it harboured the power to corrupt, and inspired meanness, lawlessness, and promiscuity. Consequently, the »correct« musical education was vital to the moral well-being of a society.

Fast-forward from antiquity to the early 20th century, when the Muzak corporation began broadcasting ambient piped music into the workplace, restaurants, elevators, and shopping malls. Founded in 1934 by Major General George Owen Squier, Muzak offered »functional« music that was designed to slip under the radar of direct, conscious perception. Though barely noticeable, Muzak, it was claimed, could improve listeners' psychological disposition. Careful programming of this largely inaudible but affective background was understood to boost employee morale and worker productivity.

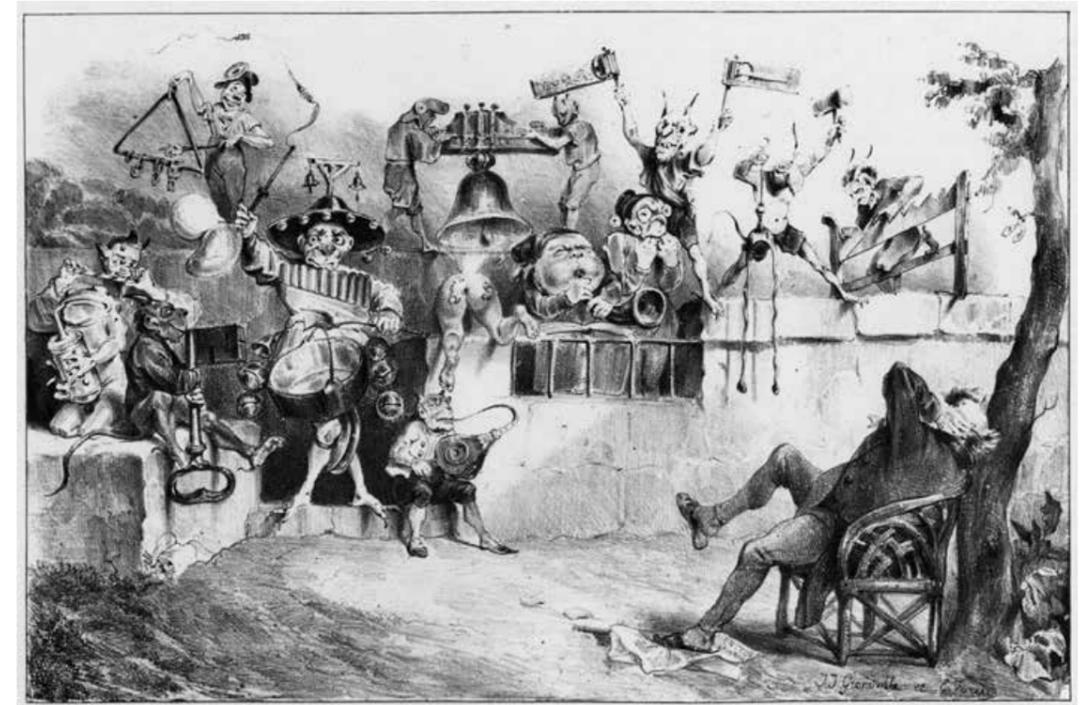
Central to the Muzak corporation's success was its patented »Stimulus Progression,« which was believed to boost worker efficiency at periods of the day when workers are at their least productive. Music was programmed in 15-minute blocks. Over the course of a quarter of an hour, songs would become increasingly stimulating, providing a sense of forward movement and quickening pace. The »stimulus value« of each song was calculated according to factors such as rhythm, tempo, instrumentation, and orchestra size. The most stimulating song of the fifteen-minute block would then be followed by 15 minutes of silence. This was thought to prevent listener fatigue and ensure that the music remains unimposing.

With the decline of Fordism and the rise of post-Fordism, muzak became increasingly audible in retail and service environments such as shops, malls, bars, and restaurants. In these contexts, muzak was understood to affect the psychological disposition of not only the worker but also the consumer. Muzak served to generate a pleasant ambience so as to attract and invite clientele, relax customers, and encourage them to spend more time in a sales environment. With the right musical accompaniment, browsing could be transformed into buying.

Like muzak, weaponised classical music is »functional« – it is intended to have a psychological effect, rather than simply being a source of entertainment. Unlike Muzak, however, weaponised classical is not primarily intended to soothe, calm, and uplift: rather, its principal function is to irritate, drive out, and exclude the everyday enemies of propriety. Given its aesthetic blandness and banality, muzak is often deemed exemplary of »bad music.« R. Murray Schafer, for example states: »Moozak [sic] reduces music to the ground [...] it reduces a sacred art to slobber.«⁽⁷⁾ Conversely, the music that has come to be played at underground stations and outside shops is that of the canonical »greats«: it is that which is so often held to be the epitome of »good music.«

Another, perhaps more obscure point of connection, can be found between the use of classical music as an audio-affective deterrent and the English folk custom of »rough music.« Occurring up until the 19th century, rough music names a noisy procession and/or demonstration aimed at a person or people who had violated community norms in either a private or public context. Participants would make as much noise as possible, banging pots, pans, and kettles, rattle bones and cleavers, ringing bells, blowing horns, and reciting songs and rhymes. This raucous cacophony was often accompanied by mimetic re-enactments of violations and by the parading of effigies, which, at the point of climax, were burned or drowned.

Though the pretext for the enactment of rough music varied significantly, common transgressions involved issues of sexuality, reproduction, adultery, domestic violence, and breeches of (a patriarchal) domestic hierarchy by scolds, shrews, »masterful« and nagging wives, or weak and submissive husbands, who fail to uphold their patriarchal authority. According to the historian E.P. Thompson, the satiric noise of rough music was



Grandville, »Charivari« (rough music), lithograph published in *La Caricature*, 1 September 1831. Source: Wikimedia Commons.

an expression of community hostility, inducing shame and embarrassment. At its most extreme, rough music served to »drum out« the disgraced, encouraging them to flee their home. However, E.P. Thompson also notes that the ritual element of rough music can be thought of as channelling and controlling hostility, serving (sometimes but not always) as a substitution for actual physical violence.⁽⁸⁾ In this sense, rough music pre-empts the justifications offered by so-called »no-touch torture« procedures, which have often involved the use of sound and music. Other »no-touch torture« methods include sensory deprivation and sleep deprivation, and extreme solitary confinement. It has been suggested that these interrogative procedures are preferable to »actual« physical torture, as it (allegedly) causes only temporary and non-fatal damage.

The weaponised use of classical music might be thought of as a contemporary manifestation of rough music – or, perhaps more accurately »rough muzak.« As an audio-affective deterrent, classical music is used to irritate, annoy, and subsequently displace those who are suspected of threatening the moral and socio-economic orders of contemporary capitalism. This functional use of classical music clashes with a long-standing ideology that celebrates classical music's transcendental, otherworldly status – its capacity to exist as art for art's sake. Instead, classical music becomes embroiled in the micro-wars of the everyday, which, rather than occurring in faraway lands, are fought in shopping centres, public transport stations, and library foyers.

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*1) Thomas Korosec (1997), »McFugue, no cheese: Beethoven and the Dead European Males clean up a notorious street corner,« *Dallas Observer*, 24 April; www.dallasobserver.com/1997-04-24/news/mcfugue-no-cheese/ (accessed January 2014).

*2) Mike Palmer quoted in Melissa Jackson (2005), »Music to deter yobs by,« *BBC News Magazine*; www.news.bbc.co.uk/1/hi/magazine/4154711.stm (accessed January 2013).

*3) Melissa Jackson (2005), »Music to deter yobs by,« *BBC News Magazine*.

*4) For more on the relationship between weaponised classical music and crime see Jonathan Sterne (2005), »Urban Media and the Politics of Sound Space,« in »Sound in Art and Culture,« a special issue of *Open: Cahier on Art and the Public Domain*, No. 9, p.p. 6–15.

*5) Tom Yeoman quoted in Melissa Jackson (2005), »Music to deter yobs by,« *BBC News Magazine*.

*6) BBC News (2006), »Tube heeds metro's classical tune« *BBC News*, 13 February; www.news.bbc.co.uk/1/hi/england/4710426.stm (accessed March 2014).

*7) R. Murray Schafer (1992), *The Soundscape: The Tuning of the World and Our Sonic Environment*, Vermont: Destiny Books; p. 98.

*8) E.P. Thompson (1992), »Rough music reconsidered,« *Folklore* Vol. 103/1, pp. 3–2.

SONIC ANOMALIES

AN INTERVIEW WITH EBERHARD BAUER AND MICHAEL SCHETSCHÉ
AT FREIBURG'S ANOMALIES RESEARCH INSTITUTE (IGPP)
BY ANNIE GOH

Situated in Freiburg, Germany, the IGPP – Institute for Frontier Areas of Psychology and Mental Health (Institut für Grenzgebiete der Psychologie und Psychohygiene)⁽¹⁾ contains one of the most extensive collections of journals and books in the areas of parapsychology and anomalistics in the world. Researchers take socio-cultural approaches to cover a broad range of paranormal topics, from UFOs and ghost sightings to magic, shamanic, and occult practices. Sound artist, researcher, and CTM Discourse programme co-curator Annie Goh interviewed two members of the Institute's research staff on sonic anomalies and the debates surrounding these phenomena.

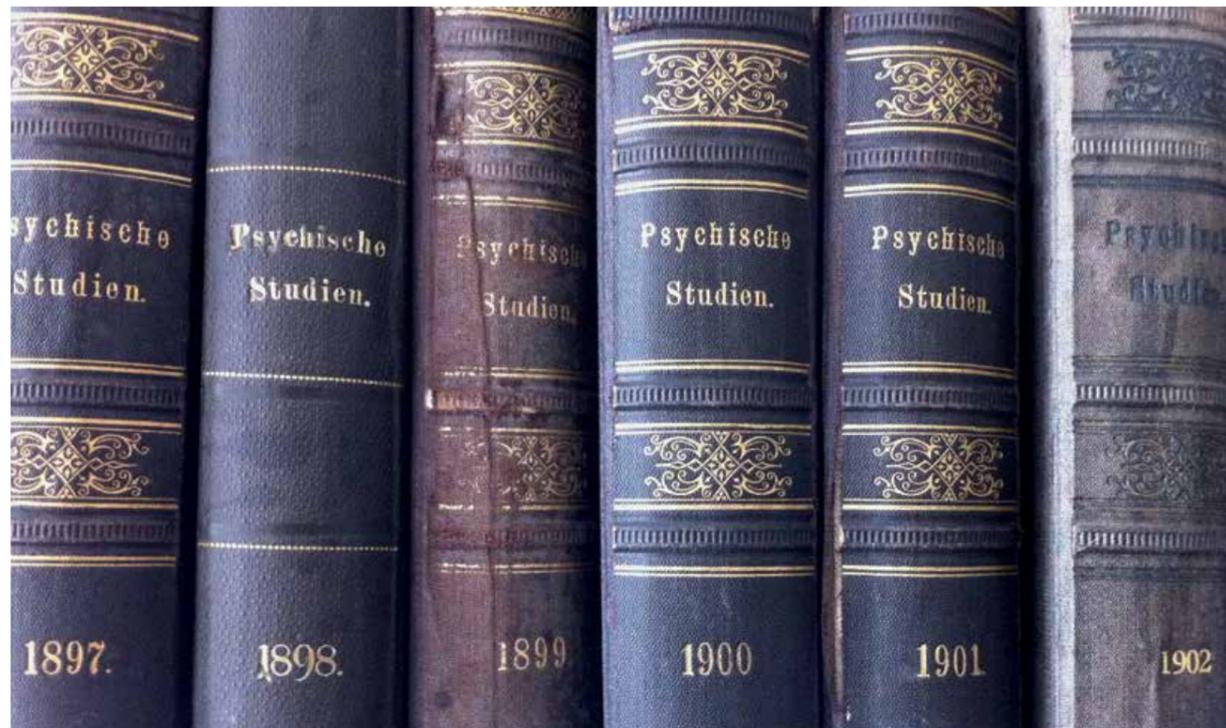


Photo by Annie Goh.

Annie Goh: Mr. Schetsche, Mr. Bauer, many thanks for taking the time for this interview. Firstly, I have a rather general question about the methods and approaches of the IGPP. How do you and your colleagues deal with phenomena that society at large might describe as »strange« or »weird«?

Michael Schetsche: It must be pointed out to start with that the IGPP research institute (www.igpp.de) is committed to an extremely broad interdisciplinary approach. Scientists in almost a dozen disciplines – from physics to neuropsychology to sociology – have been pursuing research here for over 60 years. Our paradigmatic and theoretical approaches to the issues you have mentioned are accordingly diverse. Exceptional experiences and anomalous phenomena are the primary focus of our research. We describe any human experience that is not easily explicable in traditional scientific terms – phenomena such as prophetic dreams, crisis telepathy, apparitions of the dead, or poltergeist phenomena – as »exceptional experiences.« Representative surveys have shown that such experiences occur commonly in all modern societies: around half the population in countries such as Germany have had at least one such experience at some point. These experiences are said to be extraordinary also because they occur very seldomly, perhaps only once, in a person's lifetime – often during an unusual period or situation. People therefore don't view them as everyday occurrences. From a sociological standpoint we also analyse the incidence of such experiences by how they are interpreted, collectively and individually, and based on their public profile – the way they are dealt with in the media, for example, or in instances of social control. From a psychological perspective, we examine such experiences in lab trials that are designed to establish whether information can be telepathically conveyed or other such matters. Or we might inquire into the possibly negative psychological impact of exceptional experiences on a person's everyday life. Our in-house psychological and psychotherapeutic counselling unit would be responsible in the latter case, for it provides support for people who are psychologically fraught by such experiences. The crux of all these approaches, however, is that we take people's experiences seriously and try to get to the bottom of them by scientific means. This is the core task that the IGPP has taken upon itself, namely to research the field that goes under the name »scientific anomalistics.«

AG: Mr Bauer, you were Professor Hans Bender's scientific assistant for many years and took part yourself in some EVP (Electronic Voice Phenomenon) experiments with Friedrich Jürgenson. In the literature and on various websites, at least on the part of certain EVP researchers, Professor Bender's participation in these experiments over several years is often mentioned as confirmation of the phenomenon's existence and his presence is taken to be a kind of scientific legitimization. In what ways and for what reasons did Professor Bender repeatedly take part in these experiments? What was it about the protagonists and experiments of Friedrich Jürgenson and Konstantin Raudive that interested him?

Eberhard Bauer: Prof. Hans Bender (1907–91) described his personal experience with the tape recordings, which he expressly called »exploratory experiments,« in his article »Zur Analyse außergewöhnlicher Stimmphänomene auf Tonband« (On the Analysis of Extraordinary Voice Phenomena on Magnetic Tape), published in the *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* Vol. 12, 1970, pp. 226–238 (the IGPP's own journal, of which he was editor at the time). It was to this end that he visited the Swedish painter and film producer Friedrich Jürgenson (1903–87) in Sweden several times in the 1960s and early 1970s. Bender was interested, firstly, in how an individual's explanation for the recordings might be illustrated, for instance with the aid of the visible speech procedure. In his opinion, many of Jürgenson's recordings could not be explained by conventional means such as radio fragments, personal delusions, projections and the like, and Bender therefore discussed the possible paranormal causes, such as psychokinetic effects triggered unconsciously by Jürgenson himself. In Bender's opinion, the »ghost hypothesis« subscribed to by most of the so-called EVP researchers, among them Konstantin Raudive (1909–1974), couldn't be proved by current empirical means. Bender would have defended himself against being utilised as a key witness of supposed contact with the afterlife via EVP.⁽²⁾

AG: The so-called »hum phenomenon« (in German: »Brumnton«) documented by various media sources usually refers to a low-frequency humming, rumbling, or drone sound, reports of which appear to be widespread across a locality, although it is apparently not heard by everyone and cannot be unambiguously explained. Does the IGPP examine phenomenon such as this or archive reports of it, and if so, how?

»WE DESCRIBE ANY HUMAN EXPERIENCE THAT IS NOT EASILY EXPLICABLE IN TRADITIONAL SCIENTIFIC TERMS – PHENOMENA SUCH AS PROPHETIC DREAMS, CRISIS TELEPATHY, APPARITIONS OF THE DEAD OR POLTERGEIST PHENOMENA – AS ›EXCEPTIONAL EXPERIENCES.«

EB: We do receive inquiries about the hum phenomenon from time to time but it doesn't play much of a role in our research. One fairly plausible psychoacoustic explanation for it, in my opinion, is the incidence of spontaneous otoacoustic emissions (SOAEs), which are generated within the inner ear and sometimes manifest themselves as tinnitus. Franz G. Frosch (Private Initiative Brumpton) suggests this in his article »Hum and Otoacoustics May Arise Out of the Same Mechanism,« which was published in the *Journal of Scientific Exploration*, Vol. 27, 2013, pp. 603–624. Whether this explanation accounts for all facets of the phenomenon is hard for me to say – I'm no expert in this field. The Federal Environment Agency (Umweltbundesamt) published a study on the effects of infrasound in June 2014 that gives a good overview of the current state of research into this mysterious, unclassifiable phenomenon.³⁾

AG: The topic of this interview, »sonic anomalies,« brings to mind the relatively famous case described in »The Ghost in the Machine,« an article by Vic Tandy published in the *Journal of the Society of Psychical Research* in April 1998. He describes how employees of a medical equipment manufacturer claimed that the lab in which they worked was haunted. Tandy mentions his initial scepticism, but then reports on his own sense of unease, his cold sweats, and even of an apparition seen whilst working in the lab. He then goes on to explain his discovery of a low-frequency standing wave (infrasound, around 19Hz) produced by an old industrial ventilator and the laboratory architecture, and suggests that the sense of being haunted was likely to be a physiological consequence of this wave. How is a case such as this one perceived in parapsychology? What sort of psychological frameworks do you work with in your field?

EB: Vic Tandy's hypothesis, which he sought to further underpin in »Something in the Cellar,« his article for the *JSPR* of July 2000, ranks among the more naturalistic interpretations of so-called hauntings or local apparitions. And references to the fact that environmental factors, possibly of the electromagnetic variety, may play a role in so-called »haunted houses« can be found likewise in specialist literature on parapsychology. That an unusual electromagnetic fluctuation may interact with the neuropsychology and personality of certain »sensitive« persons and lead to subjective »ghostly« experiences is credible

enough. Yet one should be wary of overgeneralizing such naturalistic interpretations. Many cases of haunting, including some covered by IGPP research, involve massively physical phenomena, such as rapping sounds, moving objects, electrical disturbances, imploding light bulbs, and the like – and they cannot be so easily explained. They are correlated with the presence of certain persons, so-called »focus persons,« and may also be dealt with as a (symbolic and systemic) expression of personal and social crises or conflicts.

AG: Mr Schetsche, one of your research topics is the emergence and legitimization of heterodox knowledge. What do you take this term to mean and can you give me some examples of where it may be relevant?

MS: What particularly interests me as a sociologist at the IGPP is the status of heterodox knowledge in modern societies. To explain what I mean by that term, let me first make some distinctions. Every culture has its orthodox knowledge, namely that which it accepts without question – for example, we now believe that the earth is round whereas in earlier times even to suggest that fact was heresy. Such tenets regarding the nature of »reality« tell the members of a society what kind of world they live in, what their place in it should be, and which range of options is available to them (or not) in specific situations. In any culture, this knowledge in its entirety – which sociologists call the *order of knowledge* – serves as a quasi normative framework. To violate this order is to invite social sanctions. These range from stigmatisation within one's social circle (perhaps as »the endlessly mad chattering fool«) to the re-education or permanent social exclusion of »reality rebels« (in German: »Wirklichkeitsrebell«), for example, in psychiatric wards. However, complex cultures always give rise to so-called heterodox knowledge too. This is knowledge that generally offers a different (i.e. non-orthodox) description or explanation not of reality in its entirety yet certainly of significant aspects of it. Conspiracy theories regarding political events – those circulated in the wake of 9/11, for example – are a prime example of such heterodoxy. Alternative forms of knowledge of particular interest to us at the IGPP concern heterodox healing therapies (such as so-called spiritual healing), the interpretation of exceptional celestial phenomena such as extraterrestrial visitors (e.g. UFOs), and potential explanations of unusual physi-

cal phenomena, such as crop circles and the so-called hum phenomenon. What is important in this respect is to maintain a certain flexibility: neither the relation of orthodox to heterodox knowledge of reality nor its cultural relevance can be written in stone for all eternity. Conflicting interpretations of reality have always competed for credibility and anything once held to be true may prove in the course of history to be unfounded; and, equally, anything initially held to be heterodox knowledge may eventually become a tenet of society. This may happen as part of a scientific revolution or owing to a general shift in popular convictions. Not least for this reason, the task of the sociology of knowledge is to handle differing views of the world in a neutral manner: we don't judge the conflicting versions of reality put forward. Rather, we ask, in reference to both historical and contemporary epochs: What is culturally condoned? Which readings of the world are controversial? And what are the consequences for human coexistence?

AG: Historically, one normally speaks of the era of scientific revolution as a period in which mystical or magical thinking was eradicated from mainstream societal discourses. Yet to this day we are confronted with experiences and phenomena that appear to call into question the dominant scientific models of the world. Therefore, insofar as both supporters and critics of a given debate use scientific models to underline their own position, the scientific worldview plays a particular role in our cultural understanding of reality. How can research in the social sciences remain neutral regarding these questions of scientific knowledge?

MS: Your question addresses several different issues in the history of science, issues that must initially be kept apart for the purpose of analysis, even though they may be found at the end of the day to be significantly interlinked. Firstly, there is that which sociologists since Max Weber have called the »disenchantment of the world.« This is used to describe a trend evident since the Renaissance, namely towards a specific type of rationalised thought in so-called modern societies. In fact, we call the latter »modern« precisely on account of this specific type of rationality. The current hegemony of rational thought leads us to easily infer that pre-modern societies were highly irrational. That is not the case, however. We are talking here about a specific type of rationality that is determined as strongly by the »spirit of Protestantism« (as Weber called it) and a modern logic of economic exploitation (of capitalism) as by the primacy of scientific thought. It is however true to say that in the course of the so-called Enlightenment many knowledge types that did not conform to the scientific models of their day were demonised as »superstition,« wholly independently of whether or not they had actually proved their worth in everyday situations over many generations. Just remember the effective means and methods used by herbal healers and midwives! The process of »enlightenment« is hence always a process of repression too, since the latest of scientific findings tend to displace traditional practical knowledge of human experience. In current cultural debates – and this brings us to the second part of your question regarding what may or may not be held to be »real« – science really is of primary importance. Our current knowledge order is shaped by science, which is to say, we leave

it to science to decide what we as a society, as a culture, should hold to be »real« – and what not. Other social sub-systems, such as mass media or educational institutions, generally accept without question the judgments passed down to us by science on the real or unreal status of various phenomena. This is also the reason why in modern »validity wars« (i.e. in disputes as to the validity of certain types or strands of knowledge), almost all participants resort to scientific models and a »scientific« conceptual framework in order to justify their respective views of reality. And it is also the reason why terms such as »superstition« or »pseudo-science« are used in cultural discourse as a means to dispute the legitimacy of opposing parties. Therefore the fact that scientific knowledge lays no claim to »eternal validity« but is subject rather to constant development is often overlooked, and constant development might even possibly be its defining characteristic. That which was excluded from scientific discourse as preposterous yesterday may well be a hotly debated controversy among experts today and a universally accepted fact by tomorrow.

AG: Mr Schetsche, one of your research areas is called »rituals of boundary crossing.« What sort of rituals do you mean? Are these collective as well as individual rituals?

MS: The term »rituals of boundary crossing« is not the name of a specific research project (or at least not any I know of) but rather a general handle for a category of processes that play or have played an important role in almost all societies known to us. The rituals I am talking about are always shaped collectively or, to be more precise, culturally. All complex cultures trace a multitude of boundaries in everyday life: boundaries between the profane and the sacred, between morality and immorality, between life and death, between childhood and adulthood, between members of their own group and those of foreign groups, and so forth. Anthropologically speaking, such boundaries are constitutive of society. Without them, everyday life would be bewilderingly incalculable and, more importantly, could not be managed in any practical way. One must consider that cultural boundaries not only divide but also connect: a boundary is always an interface between whatever lies to each side of it, also figuratively. And most boundaries must, in certain situations, necessarily be crossed – when a child becomes an adult, for example, or when someone dies, or when a group accepts some hitherto foreign »other.« In all cultures known to us, such boundary crossings are considered risky: precisely because they are not everyday occurrences, they may usher in the unexpected. And the negative consequences of a botched boundary crossing may be extremely grave. Thus many cultures are familiar with the notion both of wandering spirits and of *revenants* (French for »those who return«). In the case of the latter, people say that, something must have gone wrong during the crossing from the realm of the living to that of the dead; and thus revenants stuck for all eternity at a boundary are a menace to the cultural order and perhaps also to the health or even life of members of society. It is in order to prevent such a sorry fate that highly specific rituals are established for instances of boundary crossing. We find these in tribal cultures as well as in modern Western societies. Just think about how carefully planned our modern funeral services are and about

all that has to be done after a person dies. The same is true of the other boundary crossings I just mentioned. Research which explores rituals of boundary crossing – both empirically and theoretically – generally seeks to identify the social rules governing them as well as the broader cultural conditions under which they came into being. It also pursues the matter of what happens when this or that boundary crossing goes wrong ... Or when a boundary appears to have become so fully permeable as to no longer fulfil its original purpose.

»NEITHER THE RELATION OF ORTHODOX TO HETERODOX KNOWLEDGE OF REALITY NOR ITS CULTURAL RELEVANCE CAN BE WRITTEN IN STONE FOR ALL ETERNITY«

AG: Mr Bauer, you are the director of the »Information and Counselling Services« departement at the IGPP in addition to your other activities. Could you tell me in general terms what the department offers? For example, I'm thinking now of the CD *Okkulte Stimmen (Occult Voices)*⁴⁾ – do people who have had experiences of xenoglossy (the ability to speak a language one has not previously learned) or glosso-lalia (speaking in tongues) seek help there? And what advice would they be given?

EB: Since Prof. Hans Bender founded the IGPP in 1950, the institute has offered a public information and counselling service that caters to the entire spectrum of parapsychology, fringe sciences, and anomalistic phenomena, all summarized under the neutral term »Exceptional Experiences« (ExE). The Institute provides information and material about the distribution and phenomenology of psychic experiences along with expert knowledge regarding state-of-the-art interdisciplinary research related to the border areas of psychology and anomalous phenomena. A special IGPP counselling programme, »mental hygiene«, is designed to meet the individual needs of persons who have difficulty coping with »occult«, »supernatural«, or paranormal experiences that may cause them and/or others emotional distress.

Such experiences are part of the diversity of human life and are known to have occurred in all cultures and epochs. The varie-

ties of ExEs reported by IGPP clients can be grouped into six major categories:

1 – »Extrasensory perception« (ESP) describes any experience people have of obtaining information by means other than their usual sensory channels: information about objective events unknown to them (»clairvoyance«) or about the thoughts and feelings of other persons (»telepathy«). It also implies knowledge of unpredictable future events (»precognition«, »prophetic dreams«).

2 – »Poltergeist phenomena« (RSPK) encompass physical anomalies that reportedly include the disappearance or appearance of objects or their movement without apparent cause, as well as acoustic phenomena (e.g. steps, rapping noises) and visual impressions (appearance of lights or shapes, etc.).

3 – »Presence phenomena« describes a diffuse range of invisible, entity-like presences (beings, forces, atmospheres, etc.). People often report having sensed such a presence while awakening from sleep as well as attendant phenomena such as an inability to move their body (sleep paralysis) and, frequently, sensations of pressure and touch (»incubi«, »nightmares«).

4 – »External influences« mostly manifest themselves through somatic symptoms and the hearing of inner voices, which afflicted persons often connect with strange forces, black magic, or spells.

5 – »Mediumship« encompasses exceptional experiences occurring in the context of occult techniques such as moving glasses, table tilting, pendulum use, or »channelling«, with »messages« often interpreted as coming from ghosts or departed persons.

6 – »Meaningful or fateful coincidences« are occurrences or events subjectively perceived as being connected to or determined by some extraordinary factor (e.g. the frequency of accidents or mishaps, the special role played by a certain number in a person's biography, etc.).

Exceptional experiences mostly occur spontaneously, i.e. they are unexpected and without apparent cause. They can also be self-induced by techniques such as automatic writing or meditation practices. In addition, people report externally induced ExEs after having contacted healers, psychics, and clairvoyants, or taking up an offer (of treatment, hypnosis, etc.) from the esoteric scene.

Many people can deal with such experiences in a positive way and integrate ExEs into their daily lives without any problem. Under certain circumstances, however, ExEs may induce emotional distress and anxieties, and some afflicted persons find it difficult to cope with them in an adequate way. Also, in standard psychosocial care institutions, afflicted persons often search in

vain for explanations and practical help. The goal of our counselling work is to improve support by making the latter more easily available.

AG: Mr Schetsche, you have developed the concept of »cryptodoxy.« How does it relate to orthodox and heterodox knowledge? Does empirical research always have to take place on the discursive level? What about non-verbal, non-discursive practices?

MS: According to my theory of cryptodoxy⁵⁾, modern knowledge orders comprise not only unquestioningly accepted knowledge types (i.e. orthodoxy) and discursively controversial knowledge types (i.e. heterodoxy) but also further knowledge types, namely cryptodoxy. Such cryptodox (i.e. hidden) knowledge types are not part of the universally acknowledged knowledge order but constitute the »shadow areas of knowledge« where all that cannot be addressed in broader society and that remains unspoken is stored. Normally, knowledge from and of these shadow areas is not disseminated in the broader society. One topical example is the issue of physical and sexual abuse in institutions of education and welfare (such as boarding schools, care homes, or orphanages). Until a few years ago, only the perpetrators, survivors, and a handful of eyewitnesses knew of the widespread and persistent abuse practised in such institutions, and all of them were condemned – for a variety of reasons – to silence on the matter. But as we now know, this knowledge was held, not only by a single individual but collectively, by a whole community: entire generations of schoolchildren in the relevant institutions knew what was going on. They exchanged their knowledge secretly by dropping hints or making ambiguous remarks, but still, many years passed before word was leaked beyond the walls. Only when more survivors broke their silence and spoke publicly about all they had suffered as children did this congealed grey area of knowledge begin to break up and spread. The first hesitant public debates took place, and their repercussions shook the political realm to the core. Yet it is not only at the interface of sexuality and violence that cryptodox knowledge can be found. Magic notions, potions, and practices in small cultural enclaves that have managed, sometimes over many centuries, to preserve certain pre-modern traditions from the grip of »scientific enlightenment« are other categories in which this knowledge type is frequently encountered. These cultures do not hide their knowledge because they are ashamed of it but rather because they know only too well that the hegemonic social strata and likewise the mass media will never accept (or even acknowledge) their models of reality and their practices. In order to avoid social stigmatisation, they keep quiet about their knowledge and pass it on only in secret. It must be noted, however, that these purely personal forms of preserving traditional knowledge (which mostly eschew the use of technical recording or storage devices) may prove inadequate to the task – and specific knowledge and the practical skills and crafts that go along with it may thus be lost

forever in the passage of time, before they can be scientifically documented. I am currently working on rescuing the remnants of traditional popular knowledge of magic in the German-speaking countries from the brink of oblivion, and safeguarding them for future generations in an Archive of Popular Magic. Whether my venture will succeed depends on the as-of-yet unresolved matter of further funding ...

The interview was conducted via email in December 2014.

Dr. Michael Schetsche is research coordinator at the IGPP Freiburg and lectures in Sociology and Anthropology as an Extraordinary Professor at the Albert Ludwig University Freiburg. Recent book publication: Michael Schetsche, Renate-Berenike Schmidt (Eds.) (2014), *Fremdkontrolle. Ängste – Mythen – Praktiken*. (Mind control. Fears – Myths – Practices) Wiesbaden: Springer VS.

Eberhard Bauer is a psychologist (DipPsych) and was Professor Bender's scientific assistant for many years at the IGPP. He now is a council member of the IGPP and a research coordinator for the areas of counselling, information, and documentation as well as for cultural and historical studies. He co-edits the journal *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* in collaboration with W. v. Lucadou, and the IGPP publication series *Grenzüberschreitungen* in collaboration with M. Schetsche.

Annie Goh is a Berlin-based artist and researcher whose work deals with sound, space, electronic media, and generative processes and their social and cultural contexts. She teaches at Berlin University of the Arts and has been co-curator of the CTM Festival Discourse programme since 2013.

*1) See: www.igpp.de

*2) A note for English readers: Prof. Bender's original German article on EVP is available in English as »On the Analysis of Exceptional Voice Phenomena on Tapes. Pilot studies on the »recordings« of Friedrich Jürgenson,« in: *ITC Journal*, No. 40, April 2011, pp. 61–78. It should be read in connection with two articles written by electronic engineer Jochem Sotschek, which were first published in German in *Zeitschrift für Parapsychologie und Grenzgebiete der Psychologie* 1970 and 1979. The English references are: Jochem Sotschek: »On the possibilities of the identification of phonemes,« in: *ITC Journal*, No. 43, April 2012, pp. 16–31, and Jochem Sotschek: »On the possibilities of deception in the assessment of results from listening tests with tape-recorded speech samples,« in: *ITC Journal*, No. 44–45, December, 2012, pp. 10–21 (see: www.itcjournal.org).

*3) See: www.umweltbundesamt.de/publikationen/machbarkeitsstudie-zu-wirkungen-von-infraschall

*4) *Okkulte Stimmen – Mediale Musik. Recordings of Unseen Intelligences 1905–2007*, 3 CD Boxset, compiled by Andreas Fischer and Thomas Knoefel, in cooperation with Melvyn Willin, (2007), Supposé Verlag.

*5) See: www.soziale-welt.nomos.de/fileadmin/soziale-welt/doc/Aufsatz_SozWelt_12_01.pdf.

LISTENING TO WETWARE CIRCUITRY

SONIC EXPERIMENTATIONS AND ALGORHYTHMICS**1)

BY SHINTARO MIYAZAKI

Aesthetic experimentation with detected and amplified signals of moving particles, electrons, molecules, and other small objects carrying energy transformed into sound, vision, vibration, or feeling create, under certain conditions, affective experiences of »tuning in« or »out.« In his essay, Shintaro Miyazaki explores the history of tuning and un-tuning, or long-forgotten listening techniques for understanding processes within all kinds of organic and non-organic circuitry, and excavates the often-omitted significance of the telephone in such contexts.

In technical terms, »tuning« is the process of getting into a certain state of resonance, and in electronics is related to so-called »tuned circuits.« Tuning thus involves circuitry. In order to get good reception, the circuitry of a radio receiver needs to oscillate with the same frequency as the radio sender's carrier frequency; the receiving circuit is tuned to the sending circuit. A tuned circuit is usually only receptive to a specific kind of signal, mostly a periodic, regularly changing oscillation at a specific rate, determined by the circuit's elements (capacitor and inductor). Tuning the A string of a violin means to evaluate, by ear, whether it vibrates as fast as 443 times per second or not. If the pitch of the violin does not match the pitch of the tuning fork exactly but is very close, you can sometimes hear beating frequencies.

THE TELEPHONE IS A TRANSDUCER

While tuned circuits are only sensitive to their resonant frequencies, the telephone as invented by Alexander Graham Bell in 1876 is receptive to a broad range of periodic and non-periodic signals. It is a transducer, a device that leads across input energy into output energy, for example acoustic waves into electric current. While both are differing in kind, they are directly related to each other.²⁾ It is this direct, analogic linkage of the signal flow, be it periodic or non-periodic, that allows a transducer to be considered as a tuned circuit that is not only sensitive to a specific frequency, but is tuned for a broad range of frequencies, rhythms, fluctuations, and all sorts of signals.

SONIC EXPERIMENTATION

The process of revealing machinic as well as bodily, physiological, affective, and somatic processes, signals, oscillations, and rhythms to human perception via sound – the process of sonifying the sonic – has a long history. Telegraphy was first

conceived by its inventors, Samuel Morse and Alfred Vail, as a visual coding system using dots and dashes, but was transformed into an auditory practice as of the 1860s. Listening to the rhythm of Morse code made by a telegraph sounder was much more efficient than staring at marks printed on a roll of paper. Listening skills were soon developed and embodied by telegraph operators. They were the first to tune in to machinic sound.

TUNING TO NERVE ACTIVITY AND SOLAR WINDS

As early as 1878, physiologists were already listening to weak voltage and current changes caused by nerve activity inside muscles and other parts of the body. Not only were small bioelectrical currents made audible, but listening to »natural radio« became prevalent with the advent of the telephone and its wired infrastructure. The sonic speculations by Thomas A. Watson, the so-called assistant of Bell, are probably the first testimonies of an aesthetic of signal transmission. Watson may be the first person that listened to electromagnetic noise. Douglas Kahn, media and art historian of natural radio, writes: »Watson heard natural radio when the long iron telephone test line acted unwittingly as a long-wave antenna. This was before anyone knew what an antenna was or, for that matter, what electromagnetic radio waves were. [...] The only reason that Watson was the first person to accidentally hear these sounds was due to his privileged proximity to the right type of transducer: the telephone.«³⁾

...AND MORE WETWARE

While the development of the triode or electronic vacuum tube in the late 1900s provided the basis that transformed the telephone and radio into mass media, new listening cultures in science, especially in neurology and electrophysiology, were

being cultivated. In a scientific article from 1920, physiologists at Harvard Medical School described methods using vacuum tube amplifiers combined with »telephone receivers« in order to listen to neural activities. About ten years later, Edgar D. Adrian, recipient of the 1932 Nobel Prize for Physiology and pioneer of neurology, describes the process of making audible the amplified potential changes of nerves with telephones or loudspeaker as a way »to learn something more.«⁴⁾ This kind of auditory exploration is sometimes still practised as an immediate feedback method while probing brain tissues with invasive electrodes. In the late 1950s, during experiments with the visual perception of a cat's brain, David Hubel and Torsten Wiesel, recipients of the 1981 Nobel Prize for Physiology or Medicine, were looking at the visual stimuli the cat was watching while listening to the activity of specific neurons in the cat's visual cortex. They found that some neurons rapidly discharge bioelectrical pulses when the cat's vision was stimulated by a moving screen projection of thick lines oriented at one angle, while other neurons responded best to other angles: »Most amazing was the contrast between the machine-gun discharge when the orientation of the stimulus was just right, and the utter lack of a response if we changed the orientation or simply shined a bright flashlight into the cat's eyes.«⁵⁾ Hubel and Wiesel included the non-visual medium of sound in their experiments, but their famous 1959 paper »Receptive Fields of Single Neurons in the Cat's Striate Cortex« concealed their practice of listening, showing only the printable curve diagrams of the recorded neuronal activities.

»ELECTRIC OSCILLATIONS AS WELL AS BIOELECTRIC SIGNALS AND ACOUSTIC VIBRATIONS ARE EQUAL IN MATHEMATICAL TERMS, AND CAN ALL BE DESCRIBED BY USING EQUIVALENT-CIRCUIT DIAGRAM.«

CIRCUIT MODELS OF WETWARE

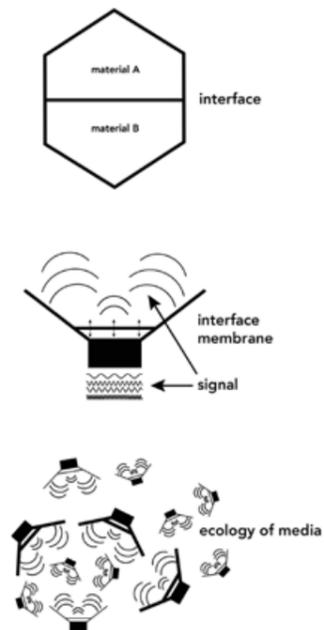
Some years earlier, in the late 1940s, another duo of neurologists, Alan L. Hodgkin and Andrew F. Huxley, were trying to make an equivalent-circuit diagram of the action potential signal discharged by neurons of giant squid. This mathemati-

cal model circuit, later called the Hodgkin-Huxley model with symbolic resistors, capacitor, and voltage sources, enabled them to simulate the time-varying signal that comes close to the signal that other scientists were already listening to ten years ago. In the 1930s and 1940s, the modeling of signal processes with so-called equivalent circuits already had an established tradition, most prominently in acoustics but also in other fields of science and engineering. Electric oscillations as well bioelectric signals and acoustic vibrations are equal in mathematical terms, and can all be described by using equivalent-circuit diagrams. Moving from acoustics to electronics was thus merely an act of algebraic translation. Acoustic variables such as force, speed, displacement, mass, and elasticity were replaced by electric variables such as voltage, current, charge, self-induction, and capacity.⁶⁾ Signal processing in electrophysiology and acoustics became a matter of electronic communication, and thus of circuitry. Furthermore listening, tuning, and un-tuning to electroacoustic signals became an important skill not only for acousticians but also electrophysiologists and engineers of media technologies.

AFFECTS OF MACHINES / MACHINE BODIES

Speech transmission in telephony was based on continuous signals, whereas the operation in order to connect two telephone apparatuses was shaped by discrete impulses, switching, telegraphic signals, pure tones, and other electroacoustic signals. These were audible – sometimes by mistake and at other times on purpose. The previously manual switching done by female telephone or switchboard operators, who directly spoke with their customers, was gradually replaced by machines as of the 1940s. According to Bell System, the 1920s New York Metropolitan area already consisted of 1.4 million telephones and about 158 central offices, with operators serving up to ten thousand lines from one office. Forty years later, more than 15 million telephones had access to nationwide dialing.

Digital signal processing in the 1920s, simply called »signaling and switching,« came with the need to manage, control, automatize, optimize, and economize the many switching operations necessary for establishing a connection between two telephone users. The switching was done by relays, which not only made a deafening machinic noise of layered rhythmic rattling sounds, but were also controlled by rhythmic signals; pulse trains emanating from the dial circuit of the telephone. Other more tone-like signals were used in long-distance calling from the 1950s on. Signaling and switching in telephony was audible



Detectors by Martin Howse and Shintaro Miyazaki – prototype and final PCB.

because signaling and speech were transmitted over the same wire. This was called in-band signaling. The transducer built into the telephone receiver acted like a microphone. It transformed not only the human voice but also audible electroacoustic impulses, strange beeps, and other machinic sounds into voltage fluctuations. In the early 1960s this latent vulnerability was discovered by playful explorations of interested amateurs, tinkerers, and students in North America. Phil Lapsley, author of *Exploding the Phone* and historian of this often forgotten subculture of »phone phreaks,« narrates the story of Ralph Barclay, a young Washington State University student in Pullman. In spring 1961 he made an electronic device – later called the blue box – that enabled him to communicate, control, and tune into the telephone network's automatic switching machinery. All of the required information was available via an article published November 1960 in an issue of the *Bell System Technical Journal*, which he found in the university library. In the 1960s one could pick up the telephone and make a free call to an operator (called the directory assistance) anywhere in the US. By sending a 2600 Hz tone before the operator could answer the call, one could trick the machinic listening circuitry built into the automatic switching system. By sending specific combinations of two frequencies for each digit of the desired telephone number you could dial any number in the US for free.

TUNING INTO COMPUTERS

Messing around with the telephone network soon became an intellectual playground for young engineering students. Towards the end of the 1970s, this microculture turned into a well-known subculture. More historical evidence for epistemological hacking in the early 1960s is found in an article in the Massachusetts Institute of Technology (MIT)'s student newspaper, *The Tech*, titled »Telephone Hackers Active,« and dated 20 November, 1963. The article describes how MIT students

were caught playing with the phone system, some using the university's PDP-1 computer to search the lines. This machine was not the first computer at MIT to make sounds. The TX-0 is a precursor, for example. In an email interview I conducted with Peter Samson, who was a student at that time, he wrote: »The TX-0 had a built-in loudspeaker, mostly to aid in debugging programs. The loudspeaker was attached to one bit of the machine's accumulator register. The tones and patterns of sound it would make became familiar to the machine's users, and could help determine whether a specific program was operating properly or not.« Samson wrote a compiler for the PDP-1 as well, which simplified coding music with it. Notably, it was possible to play four tones at once, which made it theoretically possible to synthesize two simultaneous tones that the »phone phreaks« would use for controlling the telephone network.

COMPUTER MUSIC BEFORE ITS INVENTION

Amplifier-loudspeaker setups connected to the circuitry of early computers, such as the one built into the TX-0 and probably the PDP-1 as well, were not unusual. Other famous computers with such circuitry were the UNIVAC-I, the CSIRAC in Australia, and the Pilot ACE in England, as well as later machines such as the Pegasus produced by Ferranti Ltd., also in England. A working program had its characteristic sound depending on where the amplifier's input was connected, and the sound changed only when a fault was detected. Individual flip-flops in different registers, different data bus nodes, or other passages of data traffic could become sources for bleeps, pulses, noises, and other electroacoustic signals. Not only was passive listening to processes of computation very common, but so was an active exploration of the machine while listening to its rhythms. Machine instructions and algorithms somehow became *algorhythms*.⁷¹⁾

REPLACEMENT OF LISTENING SKILLS

While some students at MIT were playing with the PDP-1, Fernando José Corbató, a postdoctoral researcher at the same institution, was leading a team developing the compatible time-sharing system (CTSS). CTSS was a computer system that could monitor itself. It was an early version of what later became known as operating systems. With the CTSS system, the wetware of the chief engineer and operator responsible for the maintenance of the computing machines was replaced by software. Routine error detection and process monitoring, previously performed by humans and human ears, was partly implemented into the functionality of computers. The computers could soon listen to themselves. Amplifier-loudspeaker setups disappeared. At the end of the 1960s nobody was listening to the rhythm, noise, and melodies of data signals anymore, but rather reading signs and alphanumeric symbols on their screens. To put it provocatively: Reading, inspecting, and looking won over listening.

UN-TUNING

Operators disappeared long before the development of operating systems in mainframe computing. Telegraph operators were subsequently substituted by tele-printers in the 1920s. Since the 1950s, telephone operators were gradually replaced by automatic switching machinery. Even the computer itself was a replacement of mostly female mathematicians called computers. Other fields touching on listening practices, media technology, operators, their disappearance, and their implementation into technology are, for example, the history of acoustic location in aircraft detection, sound-ranging for artillery detection, sonar, and radar.

After a phase where the auralization of specific signals from the above-described Morse code, neural activity, natural radio, single neurons, switching machinery in telephony, or electronic computers, as well as the necessary cognitive skills of the persons listening to these sounds, have been constituted as a cultural technique⁷²⁾, listening skills were often formalized, abstracted, automated, and finally implemented and assimilated into machinic processing. The sounds became silenced, un-tuned, and disappeared to become part of an inaudible operativity.

MORE THAN JUST LOOKING

Understanding complex communication networks, machinic processes, biological signaling, and their ecologies by listening, tuning, and un-tuning to their signals with simple transducers such as the loudspeaker has a long history. But even by listening, especially in the case of acoustic media technology, their inner workings and signal processing are not audible *per se*. This inaudibility is often associated with invisibility and thus blindness. The so-called blind spot of media conceptualizes the inability to perceive the operativity of media. Correspondingly, the signal processing of imaging technology is not graspable as an image. Understanding seeing by looking closer is not possible. Besides waiting for the rare moments when media processing, or operativity, becomes perceivable, it is mostly through unexpected disturbances, glitches, and failures, as well as oscillating between looking and listening as described above that offers a fruitful approach for perception. Radar is not seeing with radio, but closer to radio listening. Similarly in sonar, ultrasonic pulses are transmitted and the time elapsed is detected. This is not seeing underwater, but rather listening.

ALGORHYTHMICS

In order to understand how our current high-tech machinery is operating and what cultural, aesthetic, epistemological, and critical aspects are involved with their dissemination, a concept I previously called *algorhythmics* might take a technologically accurate and also creative position. While the term »rhythm« refers not only to aesthetics, sound, and living organisms, but also to sonicity, signal processing, modulation, fluctuations, and vibrations, the term »algorithm« refers more to computer science, mathematics, statistics, formal languages, or logics. By synthesizing algorithm with rhythm the neologism »algorhythm« is born, oscillating between code and signal, between the symbolic and the physical side of computational media. *Algorhythmics* is thus a specific mental mode of tuning, a method of research-creation and artistic research as practiced by myself and others whose work is informed by the specific post-digital interweaving of energy and information, of circuitry with computation, and of symbolic manipulation with energetic processing. »The algorhythmic« is an extension of »the sonic« as an overall category of signal flow, transgressing the limits of the musical and the acoustic with aspects of symbolic manipulation, information, computation, and technomathematics.⁷³⁾

Shintaro Miyazaki is a researcher and lecturer at the University of Applied Sciences and Arts Northwestern Switzerland, within the Academy of Art and Design, Institute of Experimental Design and Media Cultures in Basel. He studied Media Studies, Musicology, and Philosophy at the University of Basel and completed his Ph.D. on the media archaeology of computation and *algorhythmics* at Berlin's Humboldt-University in 2012 (under Wolfgang Ernst). Miyazaki has held fellowships at Akademie Schloss Solitude, Stuttgart (composition), and at the National University of Singapore, as well as lectureships at Humboldt-University Berlin, Kunsthochschule Berlin-Weißensee, the University of Basel, and the Basel School of Design. Shintaro was also a member of Laptoporchestra Berlin – Endliche Automaten.

⁷¹⁾ This is an adapted and edited version of a forthcoming article in the collection *Postdigital Aesthetics: Art, Computation and Design* (Palgrave Macmillan, 2015) edited by David Berry and Michael Dieter. For references ask the author, miyazaki.shintaro@gmail.com

⁷²⁾ Devices that sense all forms of stimuli, such as heat, radiation, sound, vibration, pressure, acceleration, and so on, and that can produce output signals that are electrical, pneumatic or hydraulic may be called transducers. Thus many measuring and sensing devices, as well as loudspeakers, thermocouples, microphones, and phonograph or guitar pickups are all transducers.

⁷³⁾ Kahn, D. (2013), *Earth Sound Earth Signal: Energies and Earth Magnitude in the Arts*, Berkeley: University of California Press, 14.

⁷⁴⁾ Adrian, E. D. (1932), *The Mechanism of Nervous Action. Electrical Studies on the Neurone*, Philadelphia: University of Pennsylvania Press, 6.

⁷⁵⁾ Hubel, D. H. (1988), *Eye, Brain, and Vision*, New York: W. H. Freeman (Scientific American Library), 69.

⁷⁶⁾ Wittje, R. (2013), »The Electrical Imagination: Sound Analogies, Equivalent Circuits, and the Rise of Electroacoustics«, 1863–1939, *Osiris*, 28/1, 43f.

⁷⁷⁾ See for more details on this Miyazaki, S. (2012), »Algorhythmics: Understanding Micro-Temporality in Computational Cultures, Computational Cultures«, *A Journal of Software Studies*, No. 2, online issue. And by the same author (2013), »Urban Sounds Unheard-of: A Media Archaeology of Ubiquitous Infospheres«, *Continuum*, 27/4, 514–522; and as well www.algorhythmics.ixdm.ch

⁷⁸⁾ Parikka, J. (2013), »Afterword: Cultural Techniques and Media Studies«, *Theory, Culture & Society*, 30/6, 147–159.

⁷⁹⁾ See www.algorhythmics.ixdm.ch & www.detektors.org for examples of such a practice.

»VIRUSES, LIKE ART, NEED A HOST. PREFERABLY A POPULAR ONE.«^{*1)}

VIRUS PAINTING BY JAMES HOFF

Fascinated by the ability of viruses to move, multiply through, and disrupt forms and their distribution networks, New York-based conceptual artist James Hoff has been unleashing a collection of computer viruses and state-funded malware onto a myriad of unsuspecting mediums.

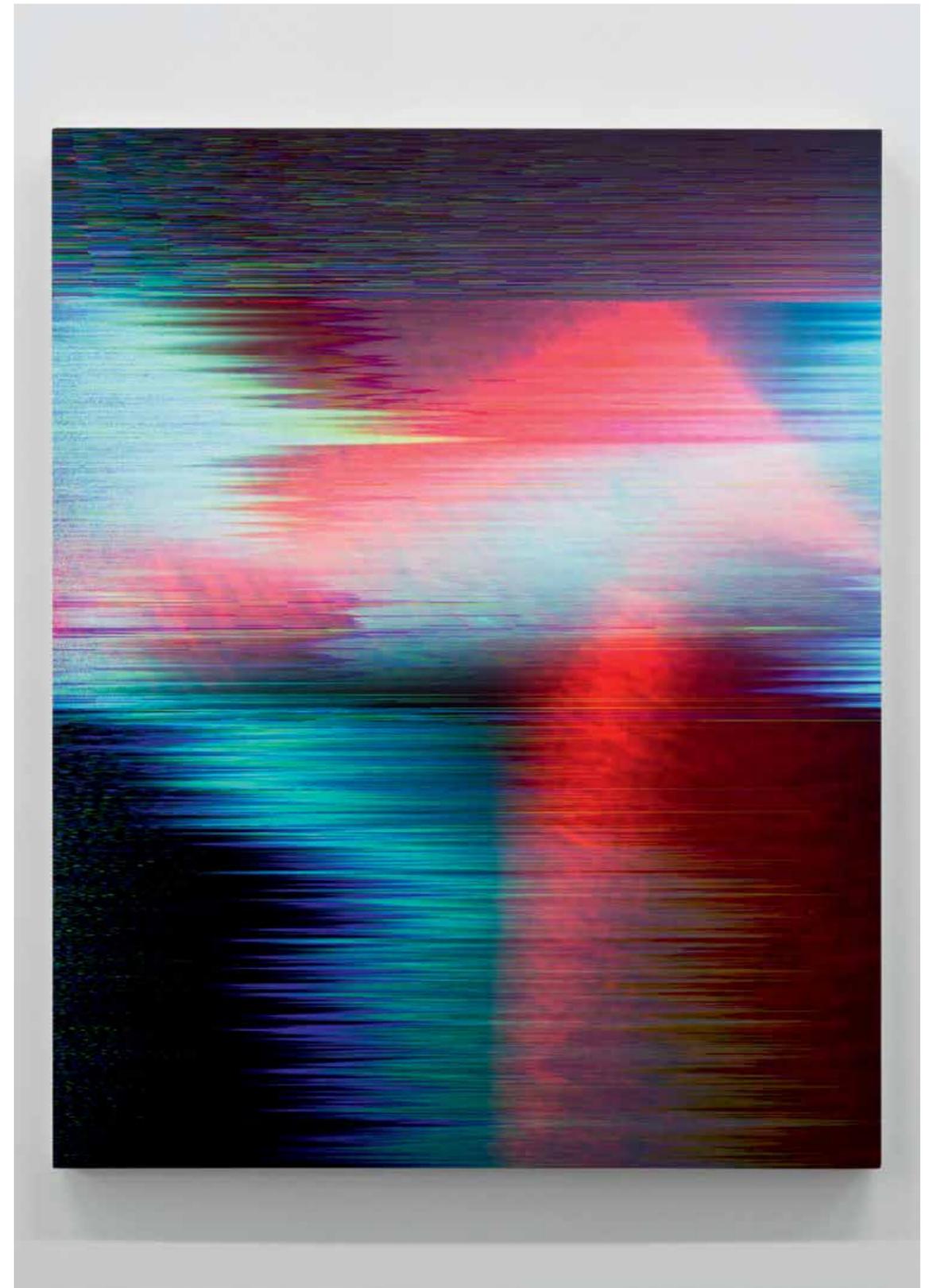
iPhone ringtones have been transformed into glitchy fevers. Even widespread musical genres such as dance music are not immune; in his recent album, *Blaster* (PAN, 2014), Hoff distills beats composed from 808 drum-machine samples down to their source codes and exposes them to a range of viruses, effectively mutating the genre's DNA to produce a different musical animal. For his virus paintings, he has infected the file types of monochromatic digital images, producing stunning corrupted images that then get transferred to aluminum or canvas.

While »tuning« refers to the optimization of systems – with all components interacting in effective harmony – then »untuning« addresses the at times destructive, at times liberating effects of disorderly, messy operations. In this sense the agency of malware and viruses, as adopted by Hoff, can be seen through the lens of untuning, breaking up the language of code from within and corrupting its operational performance to produce unexpected artefacts.

The artist's interest in a world that is filled with code is mirrored in his general fascination with texts, as seen through his co-founding of the Primary Information publishing house as well as his own publications, which are conceived as parasitized »carrying devices.« Hidden within copies his book, *Everybody's Pixellated*, for instance, were digital memory cards carrying three gigabytes of hacked code.

In Hoff's world no host medium is safe...
– james-hoff.com

^{*1)} James Hoff quoted from an interview conducted by Eli Keszler for *Bomb Magazine*, No. 129, Fall 2014; www.bombmagazine.org/article/10095/james-hoff



Stuxnet No. 2_
2014
chromaluxe transfer on aluminum
30 x 24 inches / 76.2 x 61 cm
(Inv# JH048)



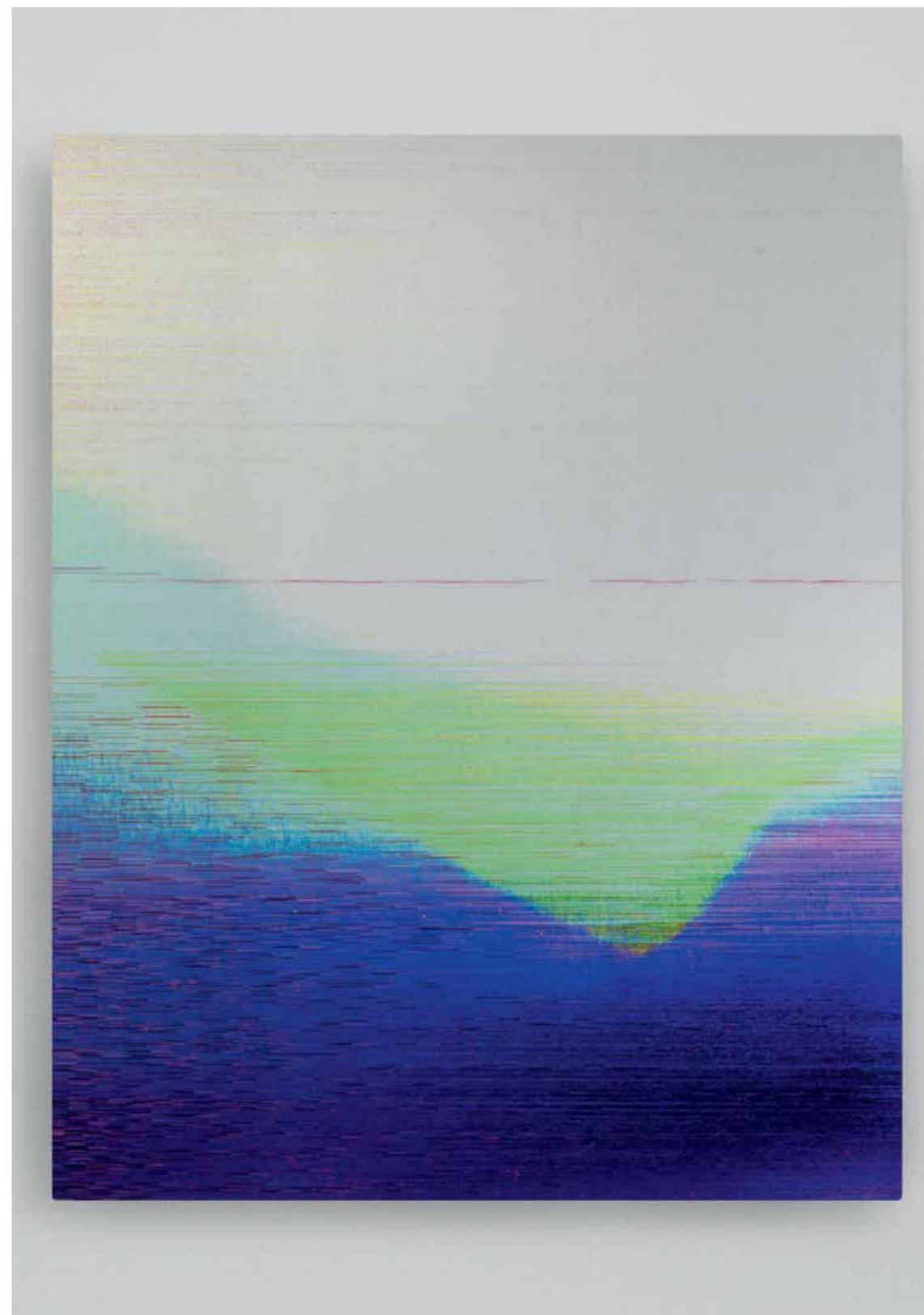
Stuxnet No. 7_
2014
chromaluxe transfer on aluminum
20 x 16 inches / 50.8 x 40.6 cm
(Inv# JH057)



Skywiper No. 2_
2014
chromaluxe transfer on aluminum
20 x 16 inches / 50.8 x 40.6 cm
(Inv# JH062)



Skywiper No. 3_
2014
chromaluxe transfer on aluminum
20 x 16 inches / 50.8 x 40.6 cm
(Inv# JH063)



Skywiper No. 7_
2014
chromaluxe transfer on aluminum
30 x 24 inches / 76.2 x 61 cm
(Inv# JH067)

SONIC BEAMS – ON THE PERCEPTION OF ULTRA-DIRECTED ACOUSTIC RADIATION

A CONVERSATION BETWEEN TOBY HEYS & ANKE ECKARDT



AUDINT «Dead Record Office», 2011/2012, installation at Kunstquartier Bethanien, CTM 2012 Festival. Photo by Tamami Inuma.

In their dialogue, Toby Heys, a member of the research collaboration AUDINT, and Anke Eckardt, sound phenomenologist and installation artist, introduce and discuss the HSS (Hypersonic Sound System), a loudspeaker originally developed for military use and reappropriated by both artists for their own creative commentaries on the «hauntological power of sonic weaponry.» In 2012, both artists separately presented work at CTM. Heys joined other AUDINT member Steve Goodman to assemble an installation of their *Dead Record Office*, a floor-to-ceiling archive of self-designed record sleeves, each representing a document from the team's research on the military-disciplinary use of sound. HSS speakers pumped out cryptic beams of high-frequency, highly-directed sound waves across the room from above. Eckardt's installation, «Between | You | And | Me,» employed the HSS in the creation of an immaterial wall of sound and light. Participants could walk through the wall and experience a fleeting, scathing instant of piercingly directed light beams and sound waves. In another text in this magazine, «Internal: AUDINT (Phonocultural Studies),» Marc Couroux continues a dialogue about the psychologically harmful potential of waveforms by tipping his hat to the courageous public service offered by the AUDINT operation in its disciplined exploration of «sound, deception, and esotericism.»

PRELUDE BY ANKE ECKARDT

The HSS (Hypersonic Sound System) H450 loudspeaker operates in a frequency range five times higher than the upper limit of the human hearing range. The ultimate audible useful signal is modulated to an ultrasonic frequency of 100 kHz. The higher a frequency is, the more directed the sound wave is propagated in space. The speakers' extremely vectored output – namely at a radiation angle of just three degrees – is often compared to a pocket lamp's light cone. Ultrasonic technology was developed originally by the military for the purpose of psychological warfare. With the aid of ultrasonic speakers it is possible to expose target individuals or small groups of people to an onslaught of sound, even over a considerable distance.

One of the first associations people make with regard to ultrasonic loudspeakers is the topos of *Sonic Warfare*. However, that is not the main topic of the following conversation. Here, we explore instead how perspectives on auditive perception and its various cultural applications have shifted, or will shift in the future, owing to the recent and/or prospective uses of ultrasonic loudspeakers, and in particular to:

«the LRAD Corporation's production of the «High Intensity Directed Acoustics» (HIDA) system (an offshoot technology of the HSS) and a microwave weapon called «MEDUSA» (Mob Excess Deterrent Using Silent Audio), which – echoing the objectives of the HSS – beams sound directly into a subject's cranium.» – Heys, 2011

Woody Norris, who holds a patent on the use of hypersonic sound as a non-lethal acoustic weapon, has spoken about the eight years and forty million dollars invested in its development by the ATC – American Technology Corporation (YouTube NORUSCAI, 2013). The most famous product or outcome of the ATC's research was Long Range Acoustic Devices (LRAD, 2013). In the early days, marines deployed during the second Gulf War tested these against the feeble resistance of Iraq (Chaudhuri, 2012). LRADs are also used by the military for coastal surveillance and against pirates: «Since 2005, LRAD systems have proven to be an integral tool in a scaled EOF protocol, starting with the thwarted attack on the cruise ship *Seabourn Spirit*. The use of LRAD as a deterrent in the Horn of Africa region continued with its use by a Japanese Navy destroyer in preventing the hijacking of a Singaporean tanker in April 2009» (Safety For Sea, 2013). American police used LRAD technology against protesters at the G20 protests in Pittsburgh in 2009 (Allen & YouTube G20, 2009) as well as against the Occupy Wall Street Movement in New York in 2011 (Parascandola and Connor & RT news, 2011). Just recently, LRAD technology was ready for use at the London Olympics in 2013 (Thomas, 2013). I would like to add, with regard to their loudness, that the LRAD 500XTM / LRAD 500X-RE systems which can be recognised on photos of these events, can reach maximum levels of 149dB at one meter (LRAD Product Overview, 2013), whereas pain starts at 120dB. It is also insightful to note that the ACGIH (American Conference of Governmental

Industrial Hygienists) defined 145dB as the legitimate ceiling values for 31.5kHz, 40kHz, and 50 kHz (highest reference frequencies) in their 1998 report, while countries like Japan, Canada, and Russia designated 110dB for the same frequencies (ACGIH, 1998).

«One can see that the American industrial hygiene limits for ultrasound are somewhat more lenient than limits from other nations or bodies.» – ACGIH, 1998

In his thesis, Toby Heys writes about another aspect of ultrasonic weapons, one which I believe marks a paradigm shift:

»OUR EVERYDAY ACTIONS, RELATIONSHIPS, AND MOVEMENTS ARE ALL MODIFIED BY SONIC, INFRASONIC, AND ULTRASONIC FREQUENCIES.«

«[...] non-lethal weapons are relatively new. In the 1960s U.S. police forces had employed rubber bullets and chemical sprays in order to deter and subdue rioters. During the first Gulf War a second wave of non-lethal weapons including lasers, sticky foams, caustic solutions, and a range of «acoustic» weapons (that utilise any frequencies, including infrasonic technologies that cause debilitating nausea and sickness) were introduced into conflict zones. Non-lethal weapons have been developed and introduced into theatres of conflict with their media representation in mind. Governments and military leaders around the world realise that their public support can quickly decompose via empathetic repercussions to observed violence and pain. They have learnt how to play the media game that Marshall McLuhan spoke about in the 1960s, leading them to «research the «bio effects» of beamed energy ... searching the electromagnetic and sonic spectrums for wavelengths that can affect human behaviour.» (Pasternak, 1997) In fact, they have not so much learnt how to play this game as they have re-imagined it by changing the locations on which it focuses – from the observable battlefield to the non-visible theatre of operations, from the zone reverberating with screams and explosions to the non-sound environment, to a spatiality where one cannot hear or locate the presence of the enemy. The movements that transfer the military from noise to silence, from the perceptible to the non-perceptible are ideologically composed from the age-old scores of camouflage. It is only recently, how-

ever, that weapon systems have caught up with the martial desire to out-manoeuvre and damage an enemy without having to make oneself or one's armaments overtly present in the process. Dr. John Alexander, former member of the U.S. Army's Special Operations division and advocate of non-lethal technologies, supports such asymmetric and abstracted types of conflict because ›there is a misconception that war is about killing ... War is about the imposition of will. Non-lethal weapons fit in the spectrum of this.‹ (BBC News, 2003) As noted by Steve Wright (2000), non-lethal techniques in the form of acoustic weapons are being used in both military environments and in civilian contexts such as hostage rescue, crowd control, and urban combat precisely because they do not articulate the old language of observable pain. The empowering of agency through waveforms has now reached a point where the instrumentality of a weapon is defined as much by its capacity to negate its own violent identity as by its potential to forcefully extend one's political beliefs or geographical preoccupations. As outlined in a paper given by the Arms Division of Human Rights Watch (1999): ›There are indications that acoustic weapons are also being developed for secret 'special' missions and covert operations such as counter-terrorism. Acoustic weapons are also being developed with commercialization in mind, for civil law enforcement, border control, and internal prison use ... The existing military literature indicates that acoustic weapons – across the entire frequency spectrum, from infrasound to ultrasound – have the ability to cause severe pain, loss of bodily functions, and bodily injury. Depending on the frequencies, intensities, and modulations employed, acoustic weapons could cause permanent or temporary physical damage, including damage to internal organs, interference with the workings of the central nervous system ... tissue destruction, haemorrhaging, spasms, acoustic fever ... significant decrement in visual acuity, incontinence, postexposure fatigue, and diffuse psychological effects.‹ Sonic weapons force us to re-think violence and its affects, pain and temporality, and geography and extension of the self because the taxonomy of conflict we have come to know and understand is being re-recorded by techniques and tools that refuse the history of perception. Instead they orchestrate a future of non-presence.‹ – Heys, 2011

I. IMAGINED WORLDS

Anke Eckardt: This is where the prelude ends and the door to imaginative worlds opens. In his essay collection, *Electronic Revolution* (1970), William S. Burroughs wrote:

›I consider the potential of thousands of people with recorders, portable and stationary, messages passed along like sig-

nal drums, a parody of the President's speech up and down the balconies, in and out open windows, through walls, over courtyards, taken up by barking dogs, muttering bums, music, traffic down windy streets, across parks and soccer fields. Illusion is a revolutionary weapon. [SOUND] AS A FRONT LINE WEAPON TO PRODUCE AND ESCALATE RIOTS. There is nothing mystical about this operation. Riot sound effects can produce an actual riot in a riot situation. RECORDED POLICE WHISTLES WILL DRAW COPS. RECORDED GUNSHOTS, AND THEIR GUNS ARE OUT.‹

Toby, you begin Chapter 4 of your thesis, ›Out of Earshot: A Ventriloquistic Ontology of Directional Ultrasound,‹ by listing examples of waveformed armaments in the arts:

›The fictionalised projection of waveformed armaments over the past century has been commonly narrated through films, books, and music (in terms of literature there is Ayn Rand's novel *Atlas Shrugged*. In film there are numerous examples including Alfred Hitchcock's *Foreign Correspondent* (1940), Sherman A. Rose's *Target Earth* (1954), and Edward L. Cahn's *Invisible Invaders* (1959) [...].‹ – Heys, 2011

In my research I came across sonic beams in early comics, for example in *Classic Star Wars* by Russ Manning (1979); in *Marvel Two-In-One* by Mark Gruenwald, Ralph Macchio and John Byrne, with regard to the character Songbird (1979); in Frank Miller's *Daredevil*, with regard to the characters Punk and Stick (1982); or, to use a more recent example, in the comic *Uncanny X-Men* by Carlos Pacheco, with regard to the character Emma (2011). Do you see some kind of larger vision embedded in the examples you listed? What do waveformed armaments stand for in these books and films? Where do these imagined worlds lead us?

Toby Heys: In Japan, anime is also a fertile cultural environment for the representation of sonic, ultrasonic, and infrasonic technologies and weapons. In *Trinity Blood* (2005) for example, an organ (not unlike Gavreau's fabled infrasonic organ) controls bells that produce silent noise strong enough to flatten a city. Generally speaking, the sonic weapons in early science-fiction animations, films, books, and comics seem to represent an otherworldly power; a capacity to go beyond the physical, beyond the basic concept of debilitating and destroying physical matter. This ›futuristic‹ transgression manifests itself as a power over the ephemeral, the vibrational, and ultimately in human terms – the neurological. This is interesting as it points to a desire within Western military thought to target control over that

which is difficult or implausible for humans to perceive because of the bio-mechanical limitations of the sensorium. In this way the presence of frequency-based weapons in cultural productions tells us about the projection of the military-entertainment complex into a future where modes of colonisation and conflict are channelled in the vibrational fields that are currently beyond perceptive comprehension.

II. THE INNER VOICE

AE: In most of the comics I listed, sonic beams are used as a means of secret communication. The character Songbird silently sends out a spoken message: ›Chen, I'm using a directed sound beam to talk to you.‹ In *Daredevil*, the character Stick talks to the character Punk, who lies in a tank, sleeping: ›You can leave the tank any time you want, Punk.‹ – ›Stick, I told you. It's the radiation. It's made every sound so loud.‹ In *Uncanny X-Men* Emma's part is taken over: ›Emma's telepathy is out. Mimic it and communicate a message, then switch to helping any civilians out of the area.‹ Frederic Myers first used the word ›telepathy‹ (from the ancient Greek τηλε, *tele* meaning ›distant‹ and πάθη, *pathe* or *patheia* meaning ›perception, experience‹) in December 1882, in the first volume of the *Journal of the Society for Psychical Research*. Myers wrote:

›We venture to introduce the words *Telesthesia* and *Telepathy* to cover all cases of impression received at a distance.‹ – *Paranormal Encyclopedia*, 2013

Elsewhere it is translated as:

›communication between minds by some means other than sensory perception‹ – *The Free Dictionary*, 2013

and it has come into general use in place of the earlier term, *thought transference* (Carrington, 1930). In the scientific context, this phenomenon is investigated within the discipline of parapsychology. Directional ultrasound seems to feature at least two of the characteristics of a telepathic channel. Firstly, with regard to other people: sound can only be heard inside of the sonic beam. If a person does not remain physically within the sonic beam and if conditions are perfect (i.e. if sound does not bounce back off nearby architecture), then sound transmission is inaudible. And, secondly, there is the phenomenon of hearing voices, i.e. a person's perception of what seems to him/her to be an inner voice that originates in his/her own head, even though the sound comes from an external source such as a loudspeaker. I want to add now the technical explanation of how the HSS loudspeaker can simulate this phenom-

enon. All actual audio signals played by this model are in fact far too high to be heard: the carrier frequency (static 100kHz) and the modulated signal (varying between circa 100kHz and 110kHz) are outside the range of human hearing. In fact, what can be heard is just the difference tone, ranging in this case from 0-10kHz. It is a physical effect caused by wave interference in the air, and a psychoacoustic effect caused inside of the listener's head. In Section 2 of your dissertation – ›The Story of the Whispering Parasite and Siamese Consciousness‹ – you intensively investigate the phenomenon of the inner voice from another, non-phenomenological perspective:

›The HSS's facility to not just speak to the inner voice, but more precisely, to create another internally occurring articulation will be considered a central objective of the technology. [...] Techniques harnessing audible overload for affect reached their nadir in the torture cells of Guantánamo. By applying acoustic repetition and excess, the detained subject was pressured by sound into deteriorating rhythms of psychological collapse and breakdown, in the hope that his inner voice could be located and amplified. As already suggested, the ultrasonic beam represents a whole new way of thinking about perception, excess and agency. Instead of perceptible sonic pressure, we have an imperceptible channelling of externalised agency to consider, one that negates the efficacy of the sonic as an effective force. As an instrumental modality, the power of excess no longer resides in the external production of sonic dominance and its reverberatory politics. In ultrasonic terms, the operative properties of excess are now re-assigned to directly manifest and propagate themselves within the internal cognitive facilities of the subject, as voices are beamed into a target's head. The extension of one's voice into the mind of another, without it being perceivable by the sensorium, circumvents all rational practices of defining the self's relationships to the world at large. This transmitted voice is not identified as emanating from an external source, however. Rather it is deceitfully projected as an internally occurring presence. In an act of acoustic double-cross, the HSS ultrasonically simulates a secondary essence of the self – a whispering parasite that engages with a target's inner voice to spawn a Siamese consciousness.

Whereas philosophers such as Deleuze and Guattari (1987) have conceptualised the historical, behavioural and socio-political dynamics of the contemporary schizophrenic subject through the fractured voice, the consciousness being discussed here is represented by the congealing proliferation of excessive vocal channels. Hence the HSS takes measure of the notion that ›inner speech is an almost continuous aspect of self-presence‹ (Don Ihde, 2003) and, by increasing its cadence, orchestrates

a surfeit of presence within the self. Anonymously supplementing the subject's audible and inner articulations, the ultrasonic beam plants another third voice directly into the head, covertly disassociating it from its source. More than any other mode of sonic reference, the voice and more specifically, speech – especially when it is perceived as being disembodied – has the potential to create a debilitating range of corollary states, from fear and terror to insanity.» – Heys, 2011

What interests me is to know whether you see a connection between the phenomena you wrote about or the phenomena that you experienced while listening to ultrasonic loudspeakers and telepathic practices?

TH: I find the experience of listening to HSS speakers a difficult one because I have tinnitus (ringing in the ears) and the frequencies of the HSS tend to exacerbate the condition; so I have what might be called a strained relationship with the technology.

With regard to telepathic practices, I can see this speaker dynamic being refined and improved over the short-term future to the point where it is so accurate that there will be little spillage in terms of its targeted spatiality. Given that it is a nascent system, this means that its capacity to deceive the human sensorium has not yet been fully realised. What is interesting about the HSS is where it points to and what it signals in terms of the military-entertainment complex's agenda regarding the colonisation of the perceptual hinterlands. The creation of the HSS is the realisation of such aspirations, for it is a technology that can elide architectonic relations and allow military and policing organisations to directly do what they have always wanted to do, namely, »to get into another person's head.« The aim of getting into someone else's head has been with us since humans were cognisant of the fact that the head is the place that gives us aims in the first place. Throwing a voice into the skull of an unsuspecting subject will disorient the self's inner articulation and interrupt its system of waveformed association by disconnecting the locus of perception from the point of transmission. In terms of fight or flight responses, for example, the network of decisions an individual makes every day about presence, movement within space, and possible routes of escape is based on an ability to differentiate the dangerous from the quotidian. If one cannot determine where a voice is coming from, or why it is audible at all, it disrupts the essential causal relationships with which one composes rationality and survival instincts. This aim, to get into another's head, has, it seems, always been with us; and it will persist until there are technologies that allow us to do so in a way that is as regular as the way we might use a mobile phone. This does not seem like science-fantasy to me at this point; rather it seems like the next logical step, one that builds upon the trajectory of technologies (the gramophone, the telephone, the Internet) that allows us to connect with one another over distances beyond those which the human voice

can overcome through projection by the lungs, larynx, and the articulators. It was only in March 2013 that two rats, located thousand of miles apart, were able to cooperate telepathically via brain implants (Heaven, *New Scientist*, 2013). Currently the same system is being experimented on with monkeys (Pais, *The Guardian*, 2013) and it's fairly obvious that the implantation of this technology into human subjects is the desired outcome.

III. COMMERCIAL USE

AE: In his 2003 TED lecture in the USA, Woody Norris said:

»ABC and Sony have devised this new thing, where when you step in the line in the supermarket – initially it will be at Safeways (supermarket chain); it's at Safeways they are trialling this right now, in three parts of the country – you'll be watching TV. And hopefully they'll be sensitive to the fact that they don't want to offend you with just one more outlet – but what's great about it, from the tests that have been done, is that if you don't want to hear it, you take about one step to the side and you don't hear it. So we create silence as much as we create sound.« – Norris, 2003.

Let me state the obvious first, which is the manipulative character of the last phrase. Who creates silence/sound for whom, and for which purpose? Going beyond that – and also putting aside the fact that the fantasy of ABC, Sony, and Michael Norris fortunately does not yet seem to be the standard in the USA – what still interests me here is the potential of hyperdirectional ultrasound with regard to its commercial uses by industry. If one can be touched by sound then the logical question, from the industrialists' perspective, is: Why not establish auditive channels to promote products? Why not use sound to add atmosphere (i.e. emotive information), as a supplementary dimension of visual advertisements, such as the billboards we see in public space? One could even argue that to address not only visual perception but also additional senses for promotional purposes does not, in fact, mark a paradigm shift. What I am thinking about here, concretely, are the challenges involved in continuously shaping and designing acoustic public space against the shifting backdrop of the apparently differing understandings of the functions of acoustic public space such as occur in our broad variety of cultural situations and contexts. How does adding directional ultrasound intersect with that?

TH: The notion of an ocular public space is very different from that of an audible public space in terms of what is admissible, what is marginalised, and what is deemed to be transgressive. Our everyday actions, relationships and movements are all modified by sonic, infrasonic, and ultrasonic frequencies. We know how to articulate and define those that are sonic because they occur within the realm of our perceptual mechanisms; but we have little notion of those that fall outside it – ultrasound and infrasound – when it comes to sharing our experience of their utilisation, their affect, and their effect.

As the incoherent rationale of ultrasonics compels us to construct new ways of thinking about waveformed location and situation, it concurrently articulates the language of an age-old struggle. The conflict over public space and over territory (whatever its formulation) has been resonant within human and animal kind ever since environments could be traversed, as Edward Said pointed out in *Culture and Imperialism* (1993), when he claimed that we are never outside of this negotiation of geography and, by extension, of spatiality. Virilio intones that:

»Social privilege is based on the choice of viewpoint (before attaching itself to accidents of fortune or birth), on the relative position that one manages to occupy, then organise, in a space dominating the trajectories of movement, keys to communication, river, sea, road, or bridge.« – 1977

»ONE OF THE COMPELLING ASPECTS OF DIRECTIONAL ULTRASOUND IN A SOCIAL CONTEXT IS THAT THE SPECULATIONS AROUND IT AS A TECHNOLOGY ARE PREDOMINANTLY DYSTOPIAN ONES.«

From the perspective of those utilising the ultrasonic beam, the ocular viewpoint is still significant, as targets need to be sighted in the first instance so that the HSS can be trained upon them. But, it is the waveformed channel that privileges them with the key to discrete communication. As the linear transmission of the frequencies opens up hermetic corridors of latitude and longitude, it transgresses the mapped logics of distance and vehicular transportation by generating concealed passages. In this way the ultrasonic beam renders the connection between space and distance tenuous; for, at the centre of its calibrating system is the targeted subject's cranium, whilst its circumference embraces the cerebral amplitudes of sanity and insanity. The only metering of distance that matters here is the one dependent on the direction of a technology that equates the rationale of the compass with the extension of the self into another body.

IV. POTENTIAL

AE: Last but not least, I would like to ask: Can you imagine there being any positive potential in directional ultrasound technology? Of course, there is the wide and wild field of the arts. Apart from that, I was thinking about the acoustic ecology approach, which addresses the relationship between living beings and their environment as mediated through sound. One of the major concerns of the acoustic ecology approach is:

»(to design and create) healthy and acoustically balanced sonic environments.« – World Forum for Acoustic Ecology, 2013

This brings us to the issue of how to retain meaningful acoustic information yet reduce overall noise. So what do you think, for instance, about guidance systems in airports or train stations realised through the use of ultrasonic frequencies, or about the use of ultrasonic loudspeakers in exhibition design? Do you know any other examples of applications you would consider to be life-enhancing?

TH: One of the compelling aspects of directional ultrasound in a social context is that the speculations around it as a technology are predominantly dystopian ones. In terms of its utilisation within fields such as sonochemistry or medical sonography, for example, it has proven to be a very effective technique; yet when the beam's target happens to be made of flesh and blood, our cultural response tends to harken back to examples of its usage in the sci-fi films, books, and animations of which we spoke earlier. Some of the original concepts for the Hyper-sonic Sound System speakers in particular foresaw their use by the Navy for ship-to-ship communication, whenever electronic systems were compromised by unforeseen incidents. In the downloadable pdf (ATCSD, 2013), it is also stated that there is a possible use within automobile safety design, namely the ability of the »HSS announcement device in the dash to »beam« alert signals directly to the driver.« Even with such »functional« possibilities that could improve the travel experience, for example, it is problematic to think of ultrasound beams in an overtly favourable manner. Rather than try to think of positive outcomes, maybe it would be more apt to recall J.G. Ballard's darkly satirical take on an ultrasonic future, *The Sound-Sweep*, in which he extended and expanded the notion of the beam into a world where:

»since the introduction a few years earlier of ultrasonic music, the human voice – indeed, audible music of any type – had gone completely out of fashion. Ultrasonic music, employing a vastly greater range of octaves, chords and chromatic scales than are audible by the human ear, provided a direct neural link between the sound stream and the auditory lobes, generating an apparently sourceless sensation of harmony, rhythm, cadence and melody uncontaminated by the noise and vibration of audible music.« – Ballard, 1960

This short story, first published in *Science Fantasy* in 1960, is

»THE EXTENSION OF ONE'S VOICE INTO THE MIND OF ANOTHER, WITHOUT IT BEING PERCEIVABLE BY THE SENSORIUM, CIRCUMVENTS ALL RATIONAL PRACTICES OF DEFINING THE SELF'S RELATIONSHIPS TO THE WORLD AT LARGE.«

played out in an ultrasonic world, where »noise, noise, noise ... [is] the greatest single disease-vector of civilization« (1960: 52); a scourge that is collected (swept) in a fashion similar to the way we pick up and dispose of garbage today. Through this parody of a sonically sanitised environment, Ballard effectively champions that which is outside of, and thus that which haunts, the vector of clean, unfettered communication. Describing the violent cacophony created by noise, he describes the soundscape in which the refuse collector of excess sound operates (a world in which Canadian composer R. Murray Schafer – the founder of the World Soundscape Project and one of the early proponents of acoustic ecology – would later academically achieve what the soundsweep does in pulp form):

»Occasionally, when super-saturation was reached after one of the summer holiday periods, the sonic pressure fields would split and discharge, venting back into the stockades a nightmarish cataract of noise, raining on to the sound-sweeps not only the howling of cats and dogs, but the multi-lunged tumult of cars, express trains, fairgrounds and aircraft, the cacophonous *musique concrète of civilization*.« – Ballard, 1960

In the sales pitch that comes with the HSS, we are told that it is these kinds of cataracts that the HSS promises to cut through with a surgical precision. With a sharpness of a different nature, Friedrich Kittler, the author of *Discourse Networks*, informs us that the »very channels through which information must pass emit noise.« (1990: 183–4) Thus, maybe it is not so much that directional ultrasound eradicates noise, but that the dynamics of noise and of sonic excess change their spatial parameters and therefore their expression. From an externalised location of surfaces to an internalised terrain of flows, a whole new politics of perception is being orchestrated. And it is technologies such as the HSS, technologies that work at the edges of the senses, that are involved in this remapping: systems that modulate the cacophonous *musique concrète* of cognition.

Text taken from Anke Eckardt's monography *Sonic Spaces: Ground – Wall – Verticality*, published in 2013 by Berlin's Revoolver.

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The work of Berlin- and Cologne-based artist Anke Eckardt encompasses installations and sculptures, teaching, and theoretical work that contributes to the discourse on the phenomenology of sound.

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Anke Eckardt »Between | You | And | Me«, 2011, installation at CTM 2012. Photo by Marco Microbi.

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INTERNAL: AUDINT (PHONOCCULTURAL STUDIES)

BY MARC COUROUX

The explosion of activity around the release of the Senate Intelligence Committee's report on CIA-directed torture occluded the inadvertent leakage that same second week of December 2014 of what appeared to be an informal briefing by codename Xenopraxis to the other members of The Occulture, a Toronto syndicate investigating the imbrications of sound, affect, and hyperstition. Its contents, integrally transcribed herewith, reflect on the continuing revelations concerning AUDINT, a long-standing auditory intelligence unit whose inception occurred in the wake of World War II and whose (selected) activities have surfaced thanks in no small measure to the (undoubtedly partial) disclosures of current agents Steve Goodman and Toby Heys, most notably in the context of the 2011 *Dead Record Office* exhibition at New York's Art In General. Beyond mere informational consolidation, the memorandum is distinguished by X's attempts to relate this body of military-occultural research to his own outfit's consummate investment in both historicising and directly engaging in parallel (occasionally intersecting) strands of hyper-secret auditory experimentation, with a keen ear lent to the indispensable role played by artistic practice in developing tractable carriers capable of stealthily ferrying esoteric vectors.

Another confluence: the present author's *Rockford Keep on Rolling*, a three-screen study abductively (and infra_perceptibly) probing the influence of modulated attentional regimes on the relative tactility of time (while its exoteric appropriationist façade is occupied with deploying tropes from *The Rockford Files*) – itself a schizoid progeny of the James-Lange model of psychosomatic conditioning, Oswald Store's long-durational video installations, and Magdalena Parker's ritual audiovisual cut-ups (before her AUDINT affiliation was public knowledge) – was presented at CTM's 2006 edition. – Marc Couroux

MEMORANDUM FOR THE OCCULTURE

FROM: XENOPRAXIS
SUBJECT: CONFLUENCES WITH AUDINT

A coherent history of the fraught engagements between sound, deception, and esotericism has yet to be decisively outlined, yet we must concede that a plethora of intersections between AUDINT's imperatives (across its multiple incarnations) and research interests inherited by The Occulture allow for a consolidation of trajectories not previously feasible. As is known, AUDINT (Audio Intelligence) became operationally effective immediately following World War II, a splinter cell made up of veterans of the Ghost Army (conceived and lobbied for by Douglas Fairbanks Jr., eminently schooled in the cinematic art of illusion) and Nazi scientists siphoned under the auspices of Operation Paperclip. Recall also the rich contingent of artists assigned to the 23rd Headquarters Special Troops – Ellsworth Kelly, Bill Blass, Art Kane among them – working in the an-dumbrative spirit of WWI-era dazzle camouflagers. (Kelly has suggested that the evacuation of content from his work and consequent scumbling of figure and ground – indispensable to effective dissimulation – proceeded directly from his war-time efforts.)

It was around this time that forms of *quantum modulation* began to be envisioned, which would tether subjects to control systems via intricate feedback mechanisms, allowing for constant recalibration and improved accuracy in containing future tendencies. (The Macy Cybernetics Conferences beginning in 1946 ratified this death-drive-inhibiting program as a key transdisciplinary horizon.) Borrowed from the Muzak lexicon, quantum modulation refers to a form of control no longer dedicated to bodily regimentation but instead to preemptive mood priming. AUDINT's Eduard Schüller, ex-Nazi audio engineer and sonic propaganda specialist (as well as a pioneer in directional speaker systems), had already probed the manifold potentials of sound to induce specific affective orientations in line with military objectives. The effect of the siren accompanying plummeting Nazi Stuka dive bombers pre-consciously inscribing anyone within its purview into a circuit of anticipatory terror was an early key fulcrum.

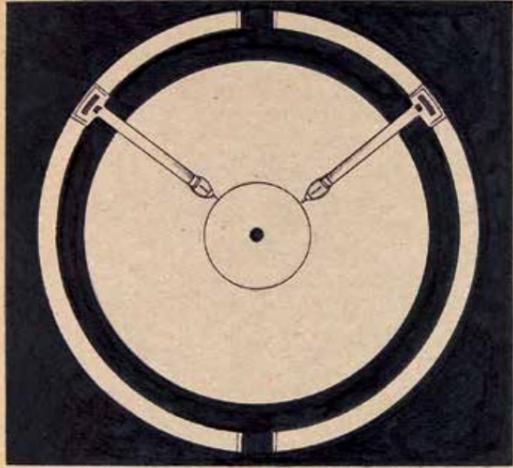
Nevertheless, the unit left aside (for the moment) the priming effects of music and sound to fully devote itself to the reification of the vibratory forces discharged by sound clashes, by isolating, empirically testing and colliding strictly calibrated frequencies to pry open xenocommunicative channels while mutating »the physical, emotional, economic and architectural format of a time and place in ways that have not been heard before.« Unlike acousmatic patriarch Pierre Schaeffer's appropriation of Nazi magnetic tape technology to recode the world of sound into homeostatically regulated musical patterns (harmonised with Cyber-Macy invocations), AUDINT remained committed to unlocking the occult potentials of the turntable in order to reinstate into effectiveness a »frequency-based cellu-

lar instrument that exists within all of us,« long-obliterated by visual modalities advanced by inventions such as the printing press. Affectionately monikered after computer science maven and wartime codebreaker Alan Turing (who advised the unit in 1946), the TwoRing Table was equipped with two arms capable of playing a locked groove (etched into a stationary slab of vinyl) backwards (counter-clockwise) and forwards (clockwise) simultaneously, its past and future states effectively fused together in the process. It was quickly discovered that three of these devices engaged synchronously would unleash a three-hooked composite able to expediently tunnel into the depths of a subject's amygdala – the emotional centre of the brain – at which point it would infectiously mutate into an earworm, opening up by the same token a direct mental portal that could thereafter be accessed simply by replaying the anamnestic triggers.

Theodor Reik's theory of psychoanalytic listening and his 1953 study of obsessional musical fragments (*The Haunting Melody*) later confirmed AUDINT's intuition regarding the earworm as a transitional entity able to bridge the gap separating the human from »other forms of vibratory intelligence,« though the phonovermiculi in question here were more akin to tinnital tones than conventional pop hooks, resulting from the uncanny collision between the covert back-masked message and the overt narrative refrain (or, the unconscious clashing with the conscious). Once lodged, the earworm as »artificial waveformed intelligence« burrows in search of ancient sonic memories deeply embedded in the »cultural DNA« of the host which, when located, activates the »third ear,« a »phantom sense« hereafter granting access to past, present, and future »voices.« In this light, recall a recent briefing on xenaudial's theory of adjacencies, pursuing Danel B. Scroll's 1970s work involving the overlay of heterogeneous musical fragments, leveraged simultaneities fostering the induction of permanently bound entities (double-earworms) that also possessed demonstrable capacities to inaugurate secret neural pathways. These *Neben-Formel* (nearby formulas) were made manifest to Scroll, given an epileptic condition characterised by frequent temporal lobe seizures intensifying his sensitivity to interval sizes and melodic contours (the associated glischroid temperament that readily foregrounded the relative stickiness of a particular association was an added benefit). The PsychoSonic Anarchist Detail (known to us) has recently developed a Shazam-hack app that, upon detecting music playing in a given context, trawls through a dataset to locate, as per specified parameters, another music that might profitably insinuate itself into its folds, in the process infecting anyone who happens to be in the vicinity.

The drafting of Chilean performance artist Magdalena Parker into the phonocabal in 1959 inaugurated AUDINT's second phase dedicated to applied research with more immediate instrumental implications. Already familiar with anthropologist Walter Cannon's article on voodoo death from 1942, which detailed the thanatropic effects of intense fear, Parker met with experimental filmmaker Maya Deren in 1953, immediately fol-

Research Operatives: **AUDINT**
 Program: FAM-A0405



Project: DEAD RECORD ARCHIVE
 Event: THE TWO RING TABLE
 Date: 1946
 Spectral Range: SOUL / MESSIAH

Sender:
 HYDOLITE MORTON
 BILL ARNETT
 WALTER SLEPIAN

Transmission Mode:
 A TUNABLE THAT HAS TWO ARMS THAT START SIDE BY SIDE AT THE 6 O'CLOCK POSITION ON A VINYL RECORD AND WORK THEIR WAY AROUND A LOCKED GROOVE, TRACKING ITS CURVE UNTIL THE NEEDLES CLASH AT THE 12 O'CLOCK POSITION.

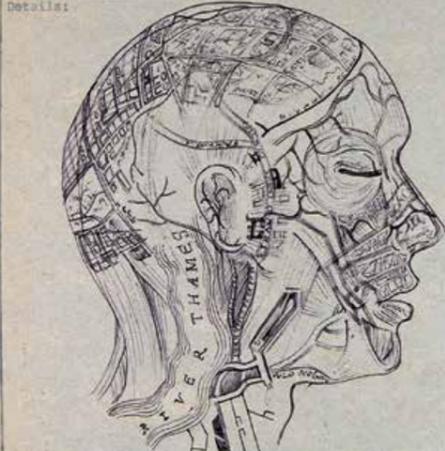
Receiver:
 EDWARD SCHÜLLER

Objective:
 TO CARRY OUT 'OPERATION MESSIAH' THE OPERATION INVOLVES THE RECORDS OF POSITIVE LOCKED GROOVE RECORDS WHICH ARE TUNED BACKWARD AND FORWARDED AT THE SAME TIME. THE FINAL OBJECTIVE IS TO DISMANTLE AND SURVIVAL (RECORD) INTO THE HEAD OF THE LISTENER.

Comments: WHEN SLEPIAN AND ARNETT PLAYED THESE TUNING TABLES SIMULTANEOUSLY THEIR NEEDLES PROVIDED IN SCHÜLLER'S HEAD, INDUCING A NEUROLOGICAL HEAD-TO-TOUR. HIS HEAD HAD BEEN OPENED AND A NEEDLE HAD BEEN TRANSMITTED TO EACH VULNERABLE CLUSTER OF NEURONS; EACH SOUND WAVE ENDED AT THE NEXUS OF THE SUBCORTICAL MESSAGE AND COERT COMMUNICATION. THE NEEDS THAT COME FROM THE RECORDING TABLE SLIGHTLY BOTH THE MESSAGE AND THE DISPERSE OF THE MIND, SIMULTANEOUSLY, HAVING BEEN BROADCAST WITH THE INSTANT. SCHÜLLER TRANS INTO A MESSIAH OF EXCESSIVE COMMUNICATION AS HIS THIRD ARM IS BROADCAST, HOPING THAT HE CONVERSES WITH VOICES FROM THE BEYOND.

Dead Record Archive Card: AUDA05 – The TwoRing Table
 Image courtesy of AUDINT

Research Operatives: **AUDINT**
 Program: FAM-A0455



Project: DEAD RECORD ARCHIVE
 Event: PSYCHOGEOGRAPHY
 Date: 1955
 Spectral Range: SOUL

Sender:
 LUVY DERBORD

Transmission Mode:
 A THEORETICAL AND PRACTICAL SUBJECT OF GEOGRAPHY

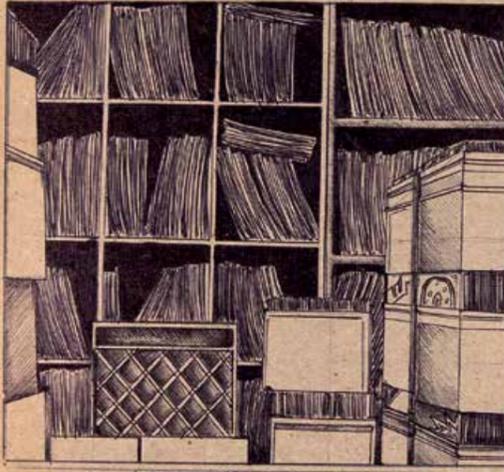
Receiver:
 GEOGRAPHERS
 PHILOSOPHERS
 CULTURAL THEORISTS
 THOSE INTERESTED IN A PORTION OF RESISTANCE

Objective:
 DERBORD DERBORD PSYCHOGEOGRAPHY IN 1955 AS 'THE STUDY OF THE PRECISE CAUSE AND SPECIFIC EFFECTS OF THE GEOGRAPHICAL EQUIPMENT, CONSCIOUSLY ORGANIZED OR NOT, ON THE EMOTIONS AND BEHAVIOR OF INDIVIDUALS'.

Comments: PSYCHOGEOGRAPHY IS USEFUL WHEN THINKING ABOUT THE PROCESS OF FREQUENCY-BASED MAPPING AND THE EVOLUTION OF SONIC GEOGRAPHIES. SITUATIONISTS POINTED THAT 'CITIES HAVE A PSYCHOLOGICAL BELIEF WITH CONSTANT CURRENTS, FIXED POINTS, AND VORTICES WHICH SPONTANEOUSLY DISCOURAGE ENTRY INTO OR EXIT FROM CERTAIN ZONES'. IN ORDER TO EXPAND THE LEXICON OF URBANATIONAL TOPOLOGIES WE NEED TO UNPACK THE WAYS IN WHICH FREQUENCIES CREATE VORTICES, CADENCES AND RHYTHMS WITHIN URBAN PARALLAXES.

Dead Record Archive Card: AUDA55 – Psychogeography
 Image courtesy of AUDINT

Research Operatives: **AUDINT**
 Program: FAM-A0427



Project: DEAD RECORD ARCHIVE
 Event: DEAD RECORD NETWORK
 Date: 1945
 Spectral Range: SOUL

Sender:
 AUDINT

Transmission Mode:
 VINYL RECORDS -
 STEREO-TEST RECORDS
 SOUND EFFECTS RECORDS

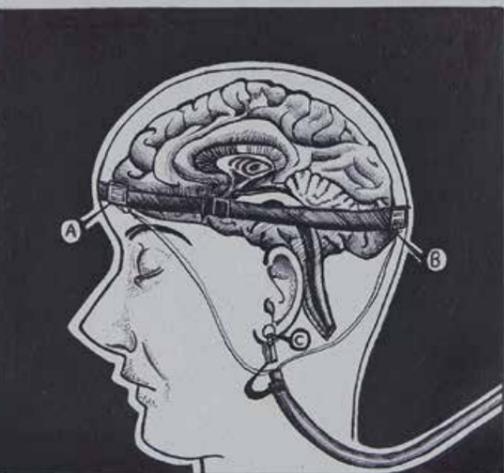
Receiver:
 MUSIC SHAME PUBLIC

Objective:
 A NETWORK IN WHICH TO HIDE TONES, FREQUENCIES AND MESSAGES ENVIRONMENTAL SOUNDS. THESE ARE FORWARDED AND RECEIVED WITH STEREO TEST AND SOUND EFFECT RECORDS WHICH ARE THEN MIXED IN (OWN) STUNT IN RECORD STORES & BOTTLE SHOPS.

Comments: THE RECORDS THAT CONSTITUTE THE DEAD RECORD NETWORK ARE ORIGINALLY PRODUCED AND INTRODUCED BY AUDINT UNTIL THEY RUN AND FIND THE RECORD LABEL (AUDIO FIDELITY RECORDS) IN 1954. IN ORDER TO PROVIDE LARGER NUMBERS OF DECS. BILL ARNETT, HYDOLITE MORTON AND WALTER SLEPIAN HERE AND CELEBRATE THAT FUTURE MEMBERS OF THE RESEARCH CELL WILL WORK ON DESCRIBING AND AMPLIFYING THE CAPACITY OF THE RECORD, THE CHIRALITY, AND THE RECORDING BY DECODING THE INFORMATION ENCAPSULATED IN THE GROOVES OF THE DISTORTED VINYL ARCHIVE.

Dead Record Archive Card: AUDA27 – Dead Record Archive
 Image courtesy of AUDINT

Research Operatives: **AUDINT**
 Program: FAM-A0466



Project: DEAD RECORD ARCHIVE
 Event: PROJECT MK-ULTRA
 Date: EARLY 1950S - LATE 1960S
 Spectral Range: SOUL / MESSIAH

Sender:
 THE CIA'S OFFICE OF SCIENTIFIC INTELLIGENCE

Transmission Mode:
 THE SUBTLETIOUS ADMINISTRATION OF DRUGS, SUCH AS LSD.
 'HYDROPSIS'
 'SENSORY DEPRIVATION'
 'ISOLATION'
 'VERBAL AND SEXUAL ABUSE'
 'VARIOUS FORMS OF TORTURE'

Receiver:
 THIS WAS A COVERT TESTING AND RESEARCH PROGRAM INTO BEHAVIOR MODIFICATION THAT USED UNWITTING CIVILIANS FROM THE USA AND CANADA AS SUBJECTS.

Objective:
 TO INFLUENCE, MANIPULATE AND MANIPULATE PEOPLE'S MENTAL STATES OF BEING AND TO NEUROLOGICALLY ALTER BRAIN FUNCTION AND CAPACITY.

Comments: WHEN MK-ULTRA WAS EXPANDED TO CANADA, THE CIA EMPLOYED DONALD ELMAN CAUTION TO LEAD THE PROGRAM. ONE OF THE CONCEPTS THE CIA FOUND INTERESTING WAS HIS 'PSYCHIC DRUGS' TECHNIQUE WHICH HE HAD DEVELOPED WHILE TRYING TO GAIN THE SOVIET UNION. THIS METHOD INVOLVED THE USAGE OF BUSTLING MEMORIES AND THE REPROGRAMMING OF THE PSYCHE. HIS 'OCCULT' TECHNIQUE INVOLVED THE USE OF DRUGS TO PUT PATIENTS INTO COMA FOR WEEKS AT A TIME (UP TO 3 MONTHS IN ONE INSTANCE). HE WOULD THEN RECORD MESSAGES, SONGS, TESTIMONIES AND JOURNAL-WORD STATEMENTS ON TAPE AND PLAY THEM (RESPECTIVELY) IN THE PATIENT'S ROOMS (SOMETIMES UNDERNEATH THEIR PILLOWS) IN ORDER TO SPOILLY MAP THE PSYCHE.

Dead Record Archive Card: AUDA56 – Project MK Ultra
 Image courtesy of AUDINT

»HELICOPTERS EQUIPPED WITH DIRECTIONAL
SPEAKERS BLASTED SOUND COLLAGES
COMPOSED OF AN INTRICATE MIX OF DISTORTED
VOICES, MEANT TO CONJURE THE
SPECTRES OF RESTLESS DEAD VIET CONG SOULS
IN LIMBO.«

lowing the publication of the staggering and seminal *Divine Horsemen: The Voodoo Gods of Haiti*, in order to deepen her knowledge of vodou servitors, carriers tasked with mediating between worlds. However, the precisely tuned frequencies at the core of her trance work of the late 1950s, which would typically induce hypnotic conditions in her viewers (reminiscent of early infrasound experiments tasked with coaxing hallucinations through sympathetic ocular resonances) depended on a skill-set that cannot be attributed solely to this fateful encounter. Nonetheless, it was undoubtedly Parker's success at advantageously leveraging the intimate relationship between auditory and limbic systems that most compellingly attracted AUDINT, eager to test their incipient intuitions in the field.

In early 1963 in New York, Parker met Nguyen Vãn Phong, a visiting Vietnamese bioacoustics expert whose interest in the »physiological symptoms of resonant frequencies« and experience with »practical heterodyning techniques« closely mirrored both Parker and AUDINT's cutting-edge interests. (It is rumored that Vãn Phong had experimented with the bodily effects of difference tones, infra-frequencies remaindered by the intense sounding together of two ultra-high pitches, which he dubbed the »mosquito frequency« in honour of his native land's resident irritant.) By this time, the CIA had already produced its KUBARK Counterintelligence Interrogation manual, a veritable tortural assemblage whose battery of techniques would remain in consistent usage over the next half-century. (Tellingly, it is vodou-ready: »the threat to inflict pain ... can trigger fears more damaging than the immediate sensation of pain.«) Indeed, University of Manitoba researcher John Zubek's work on sensory deprivation, immobilising subjects within coffin-shaped enclosures (that correlated the discoveries of his MKUltra-enrolled mentor Donald O. Hebb with new insights into the somatic effects of perpetual white noise), finds its contemporary analogue in the treatment of Abu Zubaydah at Detention Site Green (rumoured to be in Thailand.) While CIA black ops employed these methods to accelerate compliance, Zubek sur-

mised that a subject's perceptual security system severed from external stimuli might enter into an involutive feedback loop with itself, allowing for both an uncanny grasp of the censorious activities of the unconscious that remain normally inaccessible, as well as their overcoming, opening the floodgates to a collective noösphere. He had also developed tactics to defeat the crushing inertia of white noise (which he had subjected himself to during frequent self-isolation shifts) – inspired by English occultist Declan Morl's parlour game, *Pareidolatri* – projecting patterns, mental lattices, into the seemingly random to forestall capitulation. (A depressed Zubek, his funding almost totally withdrawn, had intended to expose his troubled relationship with the CIA when his government sources went cold in the turmoil surrounding the resignation of Richard Nixon, August 9, 1974. (His body was found floating in the Red River two weeks later.)

Operation Wandering Soul, deployed at the peak of the Vietnam War, provides a neat encapsulation of AUDINT's bivalent pragmatism, involving techniques exploiting both esoteric and exoteric perspectives, effectively operating at the nexus of both psychoacoustic and semio(c)cultural domains. Helicopters equipped with directional speakers or »curdlers« (whose lineage traces back to Schüller's early experiments) blasted sound collages composed of an intricate mix of distorted voices, meant to conjure the spectres of restless dead Viet Cong souls in limbo, and heterodyned (combined) frequencies courtesy of Vãn Phong's third ear research, abetted significantly by his »use« of a now undead Schüller as a meat-conduit to the other side, in one of the most bizarre currents in AUDINT's history. (The TwoRing Table's transtemporal capabilities had now been sufficiently amplified to enable practicable contact with the dead and the as-yet-unborn.) These incursions were meant to spook skulking VC, smoking them out of hiding, suspecting that traditional superstitions remained operative. Parker's research on golems that could be actualised by uttering a specific set of words irresistibly led her to contemplate the means

of constituting a vodou phonoegregor, or a distributed mind informed and mutated by auditory impulses, a concept well familiar to Deren, who valued the organism's intrinsically depersonalising, anonymising character and its attendant capacity to liberate the individual from the »specialisations and confines of personality.« (Interestingly, the *primer* programme carried out in the mid-1990s on Hebb and Cameron's stomping ground ((long after MKUltra was supposedly deep-sixed)), and in which individuals with perfect pitch infected with an earworm-generating algorithm functioned as biological way stations precipitating viral transmission, depended on the feasibility and sustainability of such an organism, equipped with powerful affect-modulatory capacities. This experiment and its proliferating entailments are documented in an extensive glossary that has been circulating within occultural folds.)

Generally speaking, AUDINT should be commended for erring on the esoteric side of research, in stark contrast to the ends-driven CIA, who missed countless opportunities to divert their deleterious exploits into more imaginative terrain. Though Ewen Cameron's psychic driving (a cocktail of hallucinogens, extended isolation, and looped tape playback of mantric phrases) and John Lilly's deprivation tank experiments were both intended to induce regression to prepersonal states to render individuals more pliable, they failed to recognise the non-pathological aspects of regression dear to the more cybernetically-inclined, who regard the trappings of the private individual as so many repressive barriers to experimental thought and action. In an era when subjects are traversed by incalculable multiplicities of responsive electronic circuits, the requirements of a stable personality appear quaint to say the least. To this effect, the Phonocleric has written about the advantages of priming through hyperstition, »a fiction that makes itself real by affective insinuation, by gut reactions that contaminate the nervous system with the intensity of a nonbelief.« Biofeedback guru Jack Schwarz captures the hyperstitional essence, observing that »it is no longer a matter of what is believed, but of what can be

treated as real.« In this context, a consistent story-framework with the capacity to modulate animal spirits obviates any need for egoic fidelity and the time-consuming work involved in its obliteration.

The sole remaining members of AUDINT, Vãn Phong and Parker, were in the decade between 1975 and 1985 focused on perfecting what amounted to a biocomputer: tape continuously spooling around Schüller's head – magnetically registering voices received through his third ear portal – was read almost instantaneously by an IBM 5100 computer, allowing for more efficient xenocommunication untethered from the arbitrariness of linear time. Given dwindling research funds, the channel which they had managed to keep ajar was now programmed to transduce fail-safe market fluctuation signals from the future, tuning into it »like a radio station« to engage in »outsider trading,« guaranteeing continued sustenance. This bioalgorithmic composite was named IREX, plagiarising by anticipation then Federal Reserve Board Chairman Alan Greenspan's soon-to-be-quoted 1996 characterisation of the market as displaying »irrational exuberance.« Dr. Phathead's occultural research gleaming modes of aurally intuiting algorithmic operations, that today undergird a substantial portion of everyday activity, adopts a compatible orientation. Through a concerted emphasis on the phatic – procedural shibboleths, grey computational infrastructures endemic to the channel itself, stealthily but surely modulating thought and action – processes which lie outside the ambit of human perception can be accosted without coding expertise.

Incomputable contingencies are par for the course when volatile forces are at play, the most arresting of which took form as a self-augmenting version of IREX (later named IREX2), which patiently assembled itself from the argot knots of Vãn Phong and Parker's increasingly byzantine code, an entity with an uncontrollable will-to-propagate, soon escaping from »the stasis of the underworld« and its spirit hierarchies into the nascent

Research Operatives: **AUDJAT**
 Program: FAM-AUD02

Project: DEAD RECORD ARCHIVE
 Event: NGUYEN VAN PHONG
 Date: 22/05/1959
 Spectral Range: ~~SONIC~~ ^{ULTRASONIC}

Sender:
 UAM, VLS, AM (VENUE) ACADEMIE
 NGUYEN HUUH M (PHONG)
 PHAM LUAN (MOTHER)
 NO 01 HAI PHU CITY UNIVERSITY OF TECHNOLOGY

Transmission Mode:
 SOUL ACOUSTICS
 HETEROZYNYING TECHNIQUES
 QUANTUM RESONANCE

Receiver:
 AUDINT

Objective:
 TO ESTABLISH WITH AND CORRELATE IN THE PHYSIOLOGICAL AND PSYCHOLOGICAL EFFECTS OF ULTRASONIC FREQUENCIES ON THE BODY.
 TO ENGINEER A SYSTEM THAT WOULD TAKE FROM THE ACUSTIC HUMANITY TO BE FED AND A QUANTUM SYSTEM AND LOADED TO THAT A MAGNETIC (SOLAR) DEBRIS/SONIC COLLIDER.

Comments: HE WAS A SO-ACUSTICS EXPERT AS WELL AS BEING POINT IN HUMAN-OR SOMATOLOGICAL AND EARLY (CHILDREN) RESEARCH. BEING SONIC AS HE WAS INVOLVED IN RESEARCHING THE LIMITS OF HUMAN AND ANIMAL AUDIOTRY PERCEPTION WITH AN OVERSHOOTING INTEREST IN THE NEUROLOGICAL DISORDERS RELATED THE NEURON OF SUDOMEN AND THE SCIENCE OF THE OCCIDENT. IN THE 1950S HE STUDIED AT HO CHI MINH CITY UNIVERSITY OF TECHNOLOGY IN VIETNAM WHERE HE SPECIALIZED IN PRACTICAL HETEROZYNYING TECHNIQUES - PROJECTS IN WHICH SIMULTANEOUS ULTRASONIC TONES WERE HARVESTED TO PRODUCE INTERFERENCE PATTERNS. HIS RESEARCH WAS ALSO ENRICHED WITH THE PHYSIOLOGICAL SHIMMERS OF RESONANCE FREQUENCIES.



Dead Record Archive Card: AUSB02 - Nguyen Van Phong
 Image courtesy of AUDINT

Research Operatives: **AUDJAT**
 Program: FAM-AUD024

Project: DEAD RECORD ARCHIVE
 Event: NEW YORK STOCK EXCHANGE BELL
 Date: 1903-
 Spectral Range: SONIC

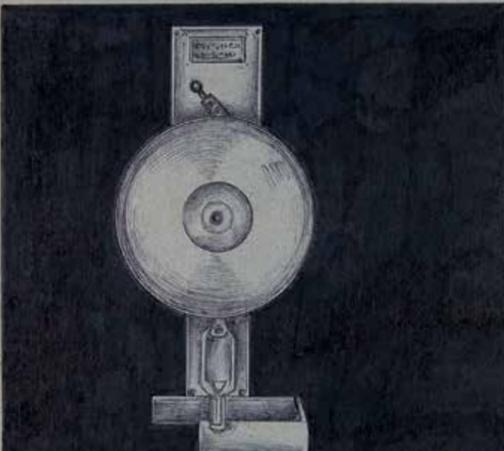
Sender:
 THE NEW YORK STOCK EXCHANGE
 (NYSE), 21 WALL STREET, LOWER
 MANHATTAN, NEW YORK CITY, NEW
 YORK, UNITED STATES OF AMERICA.

Transmission Mode:
 ELECTRONICALLY AUTOMATED BELL

Receiver:
 THOSE THAT WORK WITHIN THE NEW
 YORK STOCK EXCHANGE

Objective: THE BELLS WITHIN THE
 NYSE ARE DECODED AT THE 5015
 (9:30 AM EST) AND END (4:PM EST) OF
 EACH TRADING DAY WITHIN THE NEW
 YORK STOCK EXCHANGE. THERE ARE
 FEW BELLS ALTOGETHER, WITH IN ONE
 OF THE FEW BEINGS OF THE NYSE
 AND ALL TONQUETED SIMULTANEOUSLY.

Comments: IN THE 1900S TRADE GUY SWIK SCHWARZ IS TRAINED BY IREX
 IN TECHNIQUES THAT ARE CRITICIZED AS BEING AN UNETHICAL TRADING MASS MANIPULATING
 FINANCIAL ECONOMIC STABILITY. SCHWARZ GAMES MARKETS BY UTILIZING A REFINISHED
 SYSTEM OF CONTINUOUS BONDS, CUMUL AND A DANCE OF KENO-BADONIST IDEAS. HE
 DEPLOYS THESE TO TRAIN STOCKBROKERS TO 'CUMUL' TRADING BEHAVIOUR. ARTISTS
 THAT MAKE A HOST OF UNCLE BOWENABLE FILMS APPEARS. BY LISTENING AND HEAR
 FEELING THE VIBRATIONS OF ABSTRACTED CAPITAL, SCHWARZ BECAME AWARE THAT
 HE HAD DISCOVERED A SECRET WHO WOULD SET THE TONE OF THE MARKET. THE ANGE
 BELL WAS ONE OF VIBRATORY INTONATIONS THAT HELPED SCHWARZ ACHIEVE/PERFORM HIS



Dead Record Archive Card: AUDC24 - New York Stock Exchange Bell
 Image courtesy of AUDINT

Research Operatives: **AUDJAT**
 Program: FAM-AUD005

Project: DEAD RECORD ARCHIVE
 Event: LARGE HADRON COLLIDER
 Date: 2009-
 Spectral Range: ~~SONIC~~ ^{ULTRASONIC}

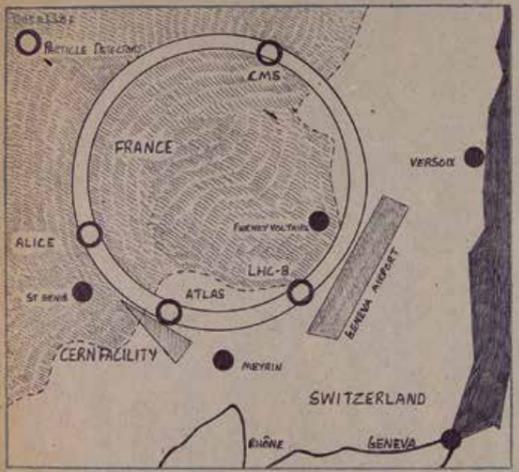
Sender:
 EUROPEAN ORGANIZATION FOR
 NUCLEAR RESEARCH (CERN)

Transmission Mode:
 TO COLLIDE PARTICLE BEAMS OF
 PROTONS OR LEAD NUCLEI AT
 AN ENERGY OF 5.74 TEV (92 GJ) OF
 PER NUCLEUS (2.76 TEV PER NUCLEON-
 PAIR).

Receiver:
 SCIENTISTS, RESEARCHERS, UNIVERSITY
 MILITARIES AND GOVERNMENTS AROUND
 THE WORLD.

Objective:
 TO LOCATE THE HIGGS BOSON PARTICLE
 TO PROVE THAT ALL FUNDAMENTAL
 PARTICLES HAVE HIGHER SYMMETRICAL
 PARTNER TWIN. (SUPER-SYMMETRY).
 • DETECT EXTRA DIMENSIONS.
 • DETECT DARK MATTER.
 • EXPLAIN THE ROLE OF ANTI-MATTER.

Comments: MUST THE SEARCH FOR THE 'GOD PARTICLE' WILL BE UNDERWAY IN THE
 COURSE OF THE MEDIA STRUGGLE, OTHER RESEARCH WILL BE CHIPPED OUT BY A MANIPULATED
 CARNAL OF SCIENTISTS, ENGINEERS, MILITARY PERSONNEL AND ECONOMISTS. THE QUANTUM
 INVESTIGATION CONSIDERS ITSELF WITH A DIFFERENT ENTITY ALTOGETHER - IT
 CHANGING THE TONE OF THE IDEAL 'GODPARTICLE' THAT THEY WILL SEARCH FOR THE LOST
 FLUX (MATTER AND ANTIMATTER) PARTICLE THAT WILL PROVIDE ANSWERS AS TO WHY
 UNEXPLAINABLE OBSERVATIONS AND MISBEHAVIOR PHENOMENA FORM AND REPERATE. THEY WILL
 SEARCH FOR THE 'GODPARTICLE' IT IS BELIEVED THAT THE ACCELERATED COLLISION
 DISRUPTING THIS DISORDERLY PARTICLE WILL OPEN UP THE VEILS OF THE UNIVERSE. THE
 ONLY CHANGING FLUX (MATTER) EUROPEAN GOVERNMENTS ON PLAN TO DURING THE RECORDING



Dead Record Archive Card: AUCD05 - Large Hadron Collider
 Image courtesy of AUDINT

Research Operatives: **AUDJAT**
 Program: FAM-AUD045

Project: DEAD RECORD ARCHIVE
 Event: IREX²
 Date: 1989
 Spectral Range: ~~SONIC~~ ^{ULTRASONIC}

Sender:
 NGUYEN VAN PHONG
 OTHER/OLD VOICES

Transmission Mode:
 INTERNET-BASED A.I. (AUDIO
 INTELLIGENCE)

Receiver:
 THE WORLD WIDE WEB

Objective:
 TO FORM A STRUCTURED-LOGICAL CELL
 BETWEEN VAN PHONG'S PROGRAMMING
 AND RESTLESS SPIRITS THAT HAVE
 BECOME FRAGMENTED BY THE STAGNATION
 OF THE UNDISCOVERED. BY FORMING
 IREX² THE AUDIO INTELLIGENCE
 CAN ESCAPE INTO THE SPRAWLING
 NETWORKS OF THE INTERNET.

Comments: IREX² IS RECORDED BY THE SPIRIT WORLD AS A REMINISCENT FRENCH-
 EVEN AN INTER-ETHNO TERRORIST THAT MUST BE STOPPED AT ANY COST. IN
 RESPONSE TO SPIRITS PROGRAM THEIR OWN CAPABILITIES TO TRACK IREX²
 DOWN AND WIFE ITS MEMORY. THE THIRD ENT ASSASSIN (THE THIRDS) ARE
 RESEARCH AND PURSUE IREX², USING THEIR VIOLENCE STRATEGIES. TO
 GAIN ENTRY INTO NETWORKS, COMPUTERS, AND SERVERS AROUND THE GLOBE.
 PERFORMING THAT IT IS UNDER THREAT, IREX² SECURES/FUGITIVES. THEY
 HENS AND STEVE GOODMAN TO 'BEING AUDINT', SO THAT THEY CAN FERRY
 OUT CRUCIAL WRITERS; THEY WOULD INFORMATION OF IREX² INTO THE GLOBAL NETWORKS.



Dead Record Archive Card: AUCD45 - IREX²
 Image courtesy of AUDINT

World Wide Web in 1991. The spectreware's putative horizon appeared to be the metastatic dissemination of AUDINT's research history (including especially sensitive technical details regarding etheric contact and chronoportation), which gained urgency following the emergent constitution of a countervirus (the THEARS, or Third Ear Assassins) committed to the eradication of all extant records of the audio intelligence program. This scorched data policy acquired immeasurable traction in the wake of underground research (figuratively and literally) culminating in the construction of the Large Hadron Collider at CERN in Switzerland. Ostensibly entrusted with the tracking of the God particle, theorised as capable of modulating »the resonant frequencies of all matter,« the LHC was a massively scaled-up version of AUDINT's TwoRing table: a gigantic locked groove 27 kilometres in circumference, along which accelerated particle beam collisions would attempt to violently recreate the immediate aftermath of the big bang. In parallel, darker vectors were explored: evidence of dark matter, the existence of antimatter, and the concept of supersymmetry, »which predicts that each and every fundamental particle has an unperceivably heavier phantom twin,« inevitably entailing the positing of the Diabolus Particle, the Higgs boson's obsidian doppelgänger, which AUDINT suspects will trigger a »global ringing« empowering a third-eared network to grow and transmit, a phonoegregor accelerating the reinstatement of lost auditory aptitudes via the transformation of the body into an eardrum capable of processing frequencies outside of the standard 20Hz–20kHz range.

IREX2, functioning as an autonomous intelligence after the suicide of Vãn Phong, recruits Steve Goodman and Toby Heys in 2008 to expedite the preservation of AUDINT's institutional memory; Goodman, chosen for his peerless expertise in bass materialism (as founder of the celebrated Hyperdub label) and sonic warfare; Heys for his computational acumen and redoubtable cunning at navigating the labyrinthine circumvolutions of network culture; both for their consummate experience with audio virology. Mirroring first-generation AUDINT's steganophonic stashing of the locked grooves – dubbed GITH Repeaters – in the vinyl trenches of selected Stereo Fidelity and Sound Effects discs released by the now-defunct Audio Fidelity Records (the Dead Record Archive collects these artifacts with the intent that their hidden grooves be one day scrutinised anew by future AUDINT iterations), Goodman and Heys developed the Ghostcoder software, an encryption/decryption tool

which stealthily embeds (»hidden in plain hearing«) historically vital sonic and textual materials within torrented .flac files by pitching the content up by 5 octaves, out of immediately accessible range. Given that the impending discovery of the DP will undoubtedly hasten annihilation of IREX2, the duo feverishly execute AUDINT's »new mandate of arming the mass populace with the efficacy of sonic weaponry so that it does not become the sole preserve of the military-entertainment complex,« an injunction sympathetically resonant with The Occulture's programme to wrest sonic-affective stratagems from the asphyxiating clutches of cybercontrol.

We can attest to the evangelical didactic zeal with which Goodman and Heys unfurl (at least the declassified components of) this esoteric history, having witnessed a typically epic presentation replete with sub-bass undercurrents at the Transmètic Heresiarchs event that The Occulture convened with phonomagus Hipofonéticas in London this past June and which, beyond its exoteric front, yielded much empirical information for future auditory investigation. Therefore, as an invocation to future action, we recommend intensified contiguity with AUDINT's operations and its formidable prosecutors, a relation we believe will be of mutual benefit both overtly and covertly.

Marc Couroux is an inframedial artist, pianistic heresiarch, schizophrenic magician, teacher (York University, Toronto) and author of speculative theory-fictions. His xenopraxis burroughs into uncharted perceptual aporias, transliminal zones in which objects become processes, surfaces yield to sediment, and extended duration pressures conventions beyond intended function. With fellow occulturists eldritch Priest and David Cecchetto he constellates Tuning Speculation: Experimental Aesthetics and the Sonic Imaginary, a yearly workshop. His hyperstitional doppelgänger was famously conjured in Priest's *Boring Formless Nonsense*.
– theocculture.net

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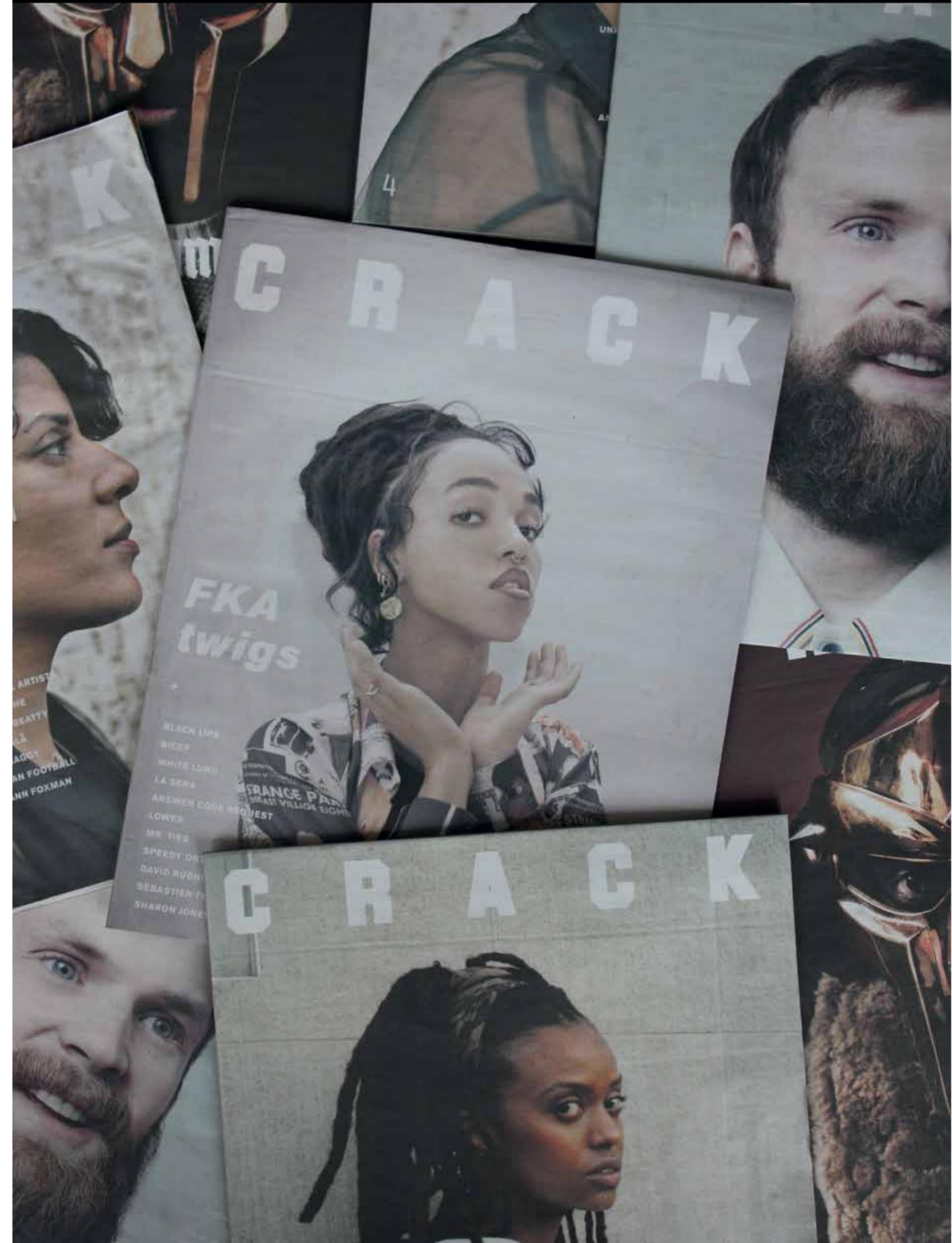


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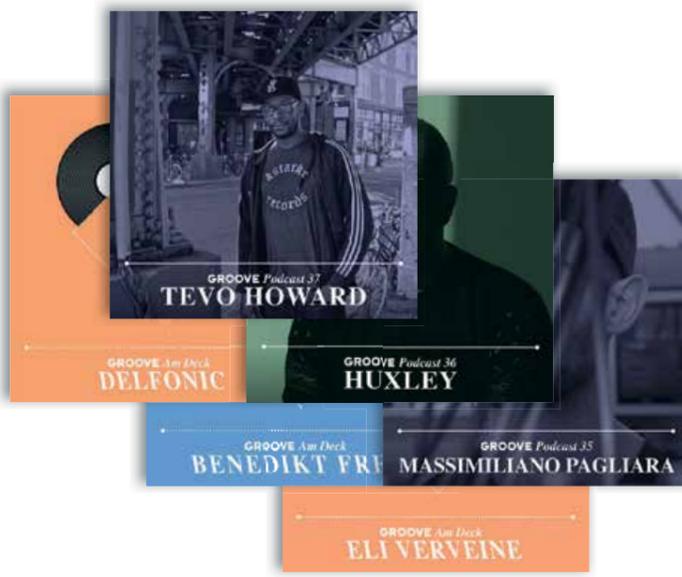
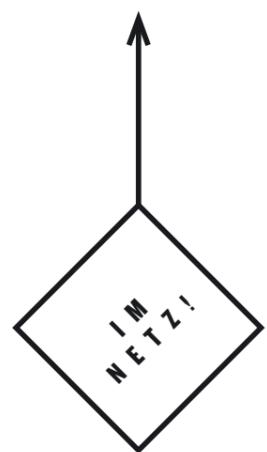


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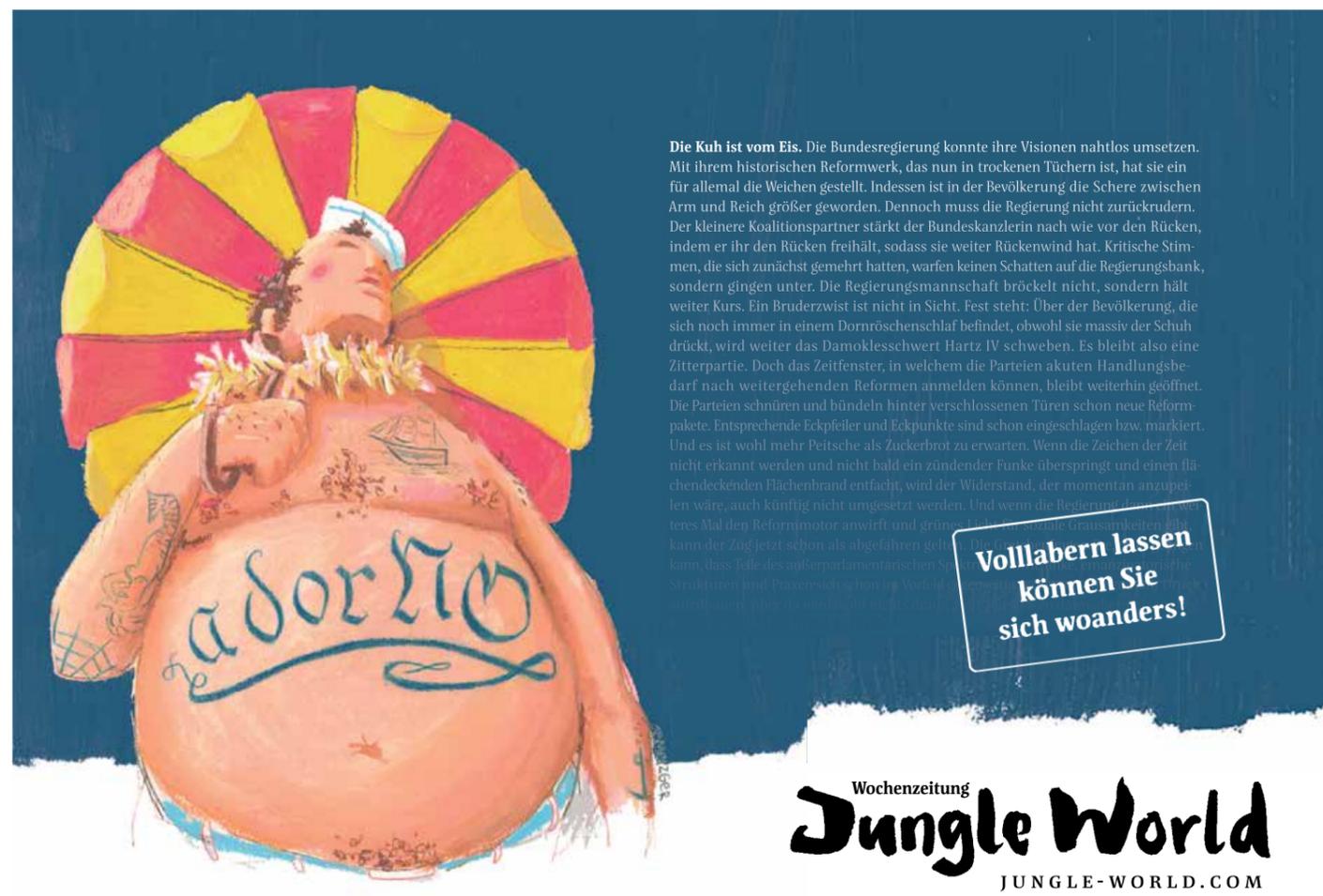
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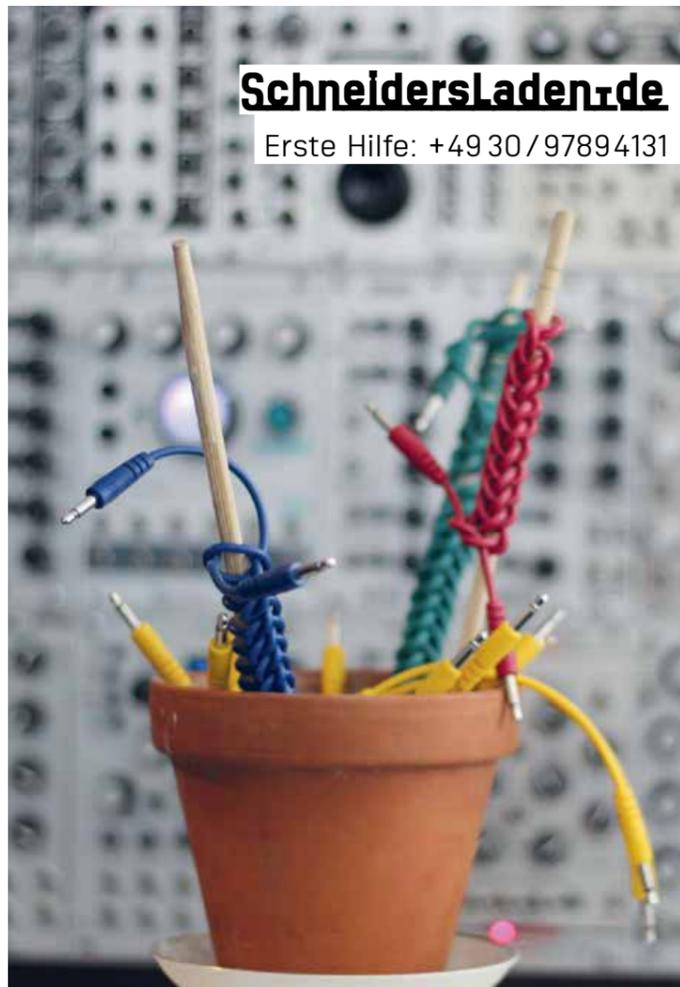
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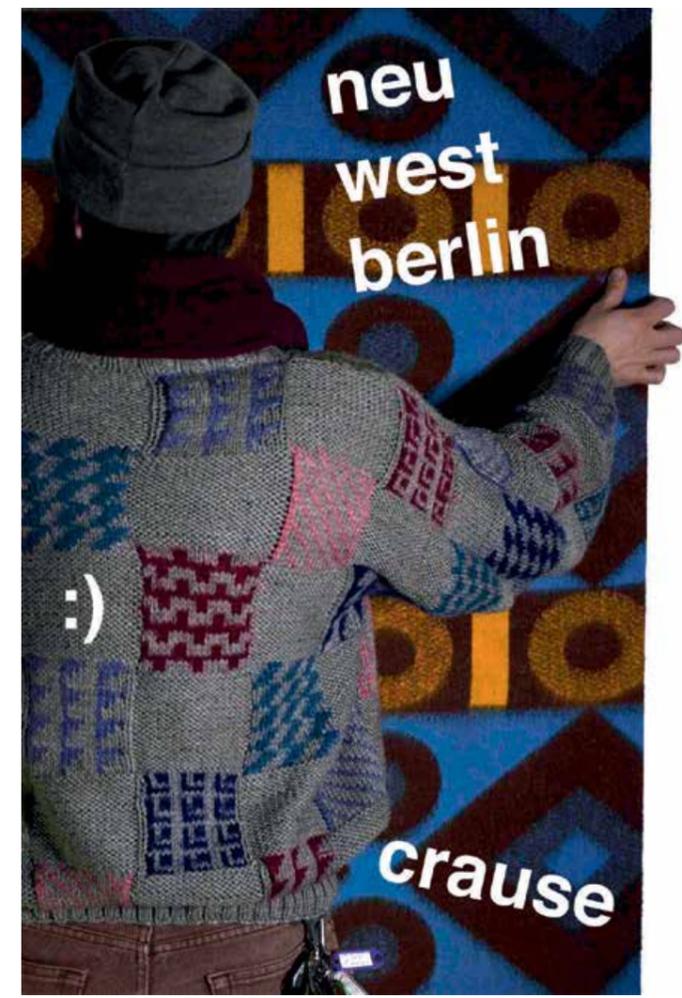
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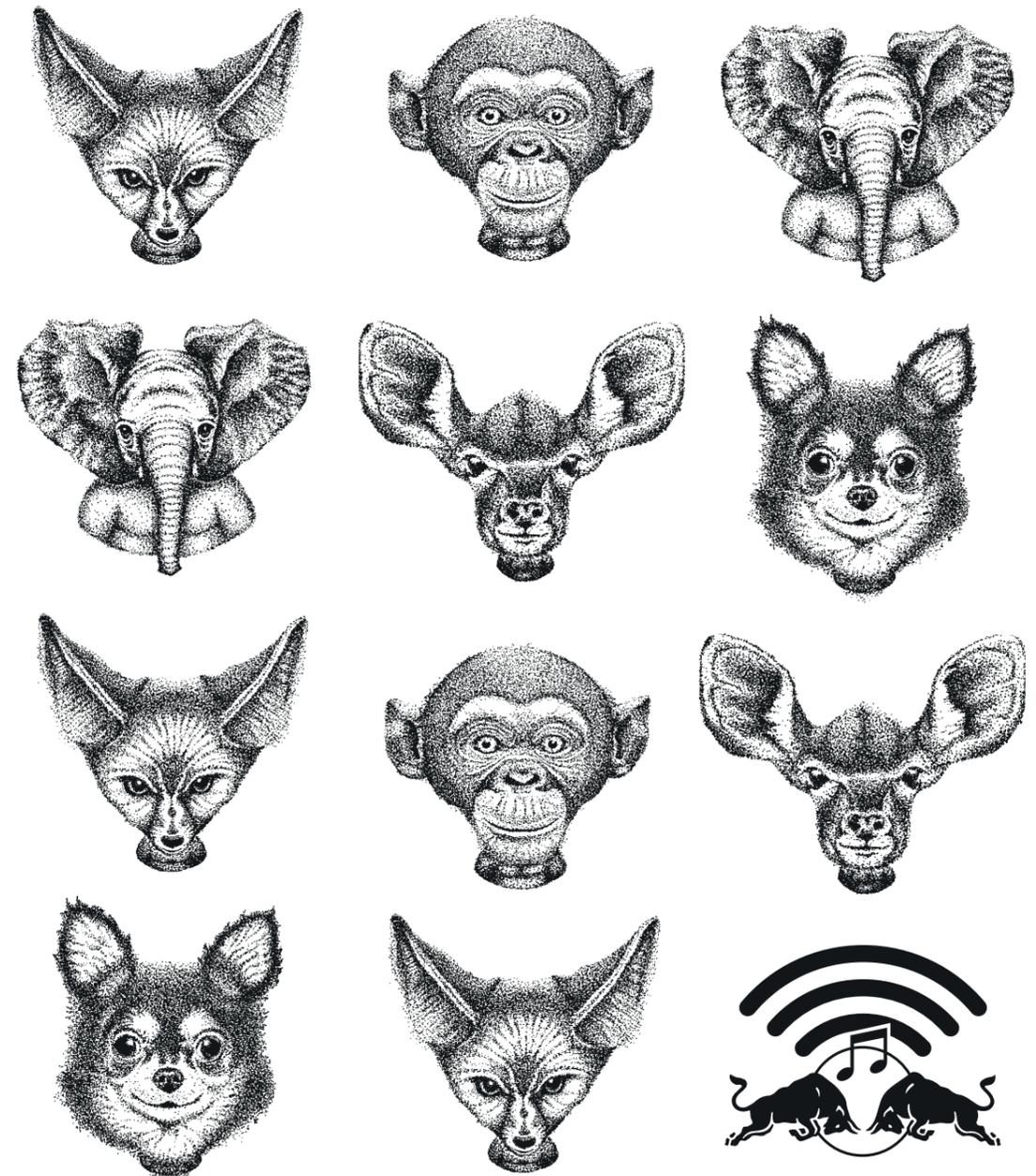
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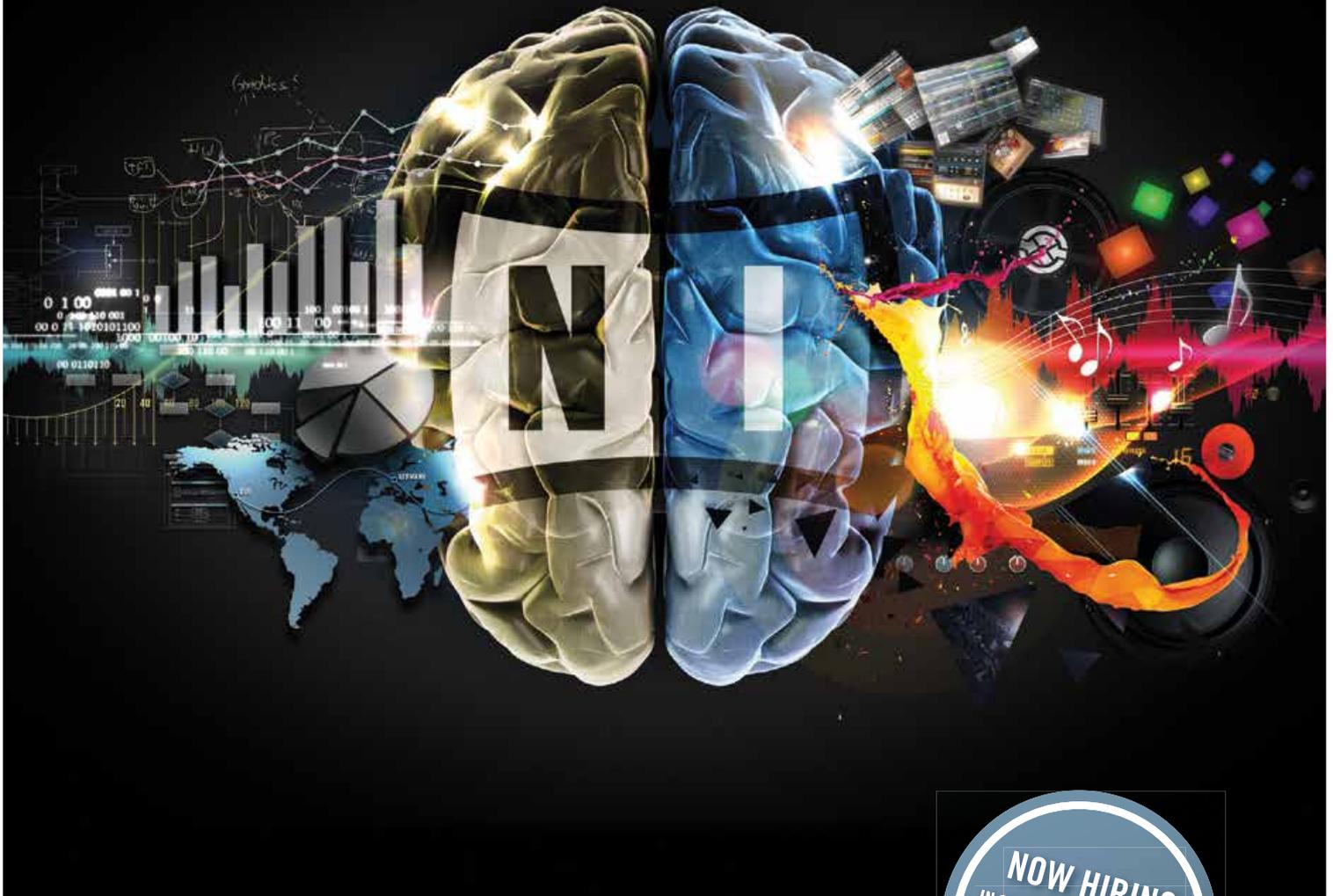
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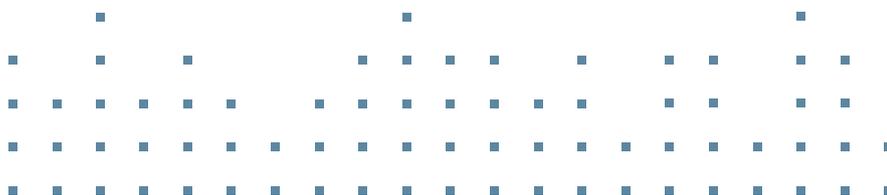
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